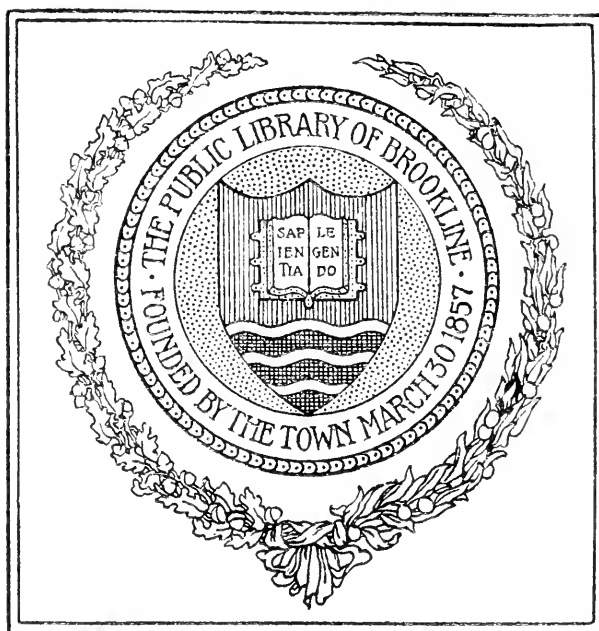


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REPORT
OF
THE SURVEY COMMITTEE
ON THE
BOSTON PUBLIC SCHOOLS



1930



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REPORT OF CERTAIN PHASES OF
THE BOSTON SCHOOL SYSTEM

BY THE

SURVEY COMMITTEE OF THE
BOSTON PUBLIC SCHOOLS



CITY OF BOSTON
PRINTING DEPARTMENT
1930

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BOSTON PUBLIC SCHOOLS.

IN SCHOOL COMMITTEE, December 3, 1929.

Edition of two thousand (2,000) copies authorized to be printed
as a school document.

ELLEN M. CRONIN,
Secretary.

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THE SURVEY COMMITTEE

Judge MICHAEL H. SULLIVAN, *Chairman.*

PRESIDENT A. LAWRENCE LOWELL,
Representing His Honor the Mayor of Boston.

FRANCIS R. BANGS,
Representing the Boston Real Estate Exchange.

WALTER F. DOWNEY,
Head Master, English High School.

CARL DREYFUS,
Representing the Boston Chamber of Commerce.

FRANCIS P. FENTON,
Representing the Boston Central Labor Union.

ARTHUR L. GOULD,
Member of Board of Superintendents, Boston Public Schools.

ARCHER M. NICKERSON,
Master, Frank V. Thompson Intermediate School.

Mrs. WILLARD D. WOODBURY,
Representing the Boston Home and School Association.

ESTABLISHMENT OF SURVEY COMMITTEE BOSTON PUBLIC SCHOOLS

This survey of certain phases of the Boston school system was authorized by order of the School Committee as follows:

IN SCHOOL COMMITTEE,
March 19, 1928.

Whereas, The expenditures of the School Committee for all purposes, including land and new buildings, have increased from \$7,495,052.62 in 1918 to \$19,581,458.81 in 1927; and

Whereas, Popular interest and concern is evidenced by contemplated surveys from time to time and recently a preliminary survey by the Finance Commission for an elaborate survey costing \$60,000 apparently now abandoned; and

Whereas, The Board of Superintendents and the Board of Apportionment, to whom have been referred by the School Committee, orders for investigation and report on certain phases of activities of our school system, are already taxed to the maximum with their official and ordinary functions; and

Whereas, The School Committee is desirous of having all the facts that have caused the increased cost of maintaining the public school system during the past decade made known, together with the relation of the increase in cost to the numerical, pupil and curricula growth of the school system; and

Whereas, The School Committee is willing to provide the necessary funds for a survey of the public school system and to appoint a committee to make such survey, of which a majority shall be citizens of Boston who are neither officials nor employees of the school system; said survey to have special reference to the increased and increasing cost of the maintenance of the school system.

Be it therefore

Ordered, That a committee of seven, to serve without pay, be appointed by the School Committee to make a survey which shall include the following:

- I. Intermediate and High School Organization:
 - (a) A study of vocational education with special reference to shop work.
 - (b) A careful study of the curriculum with a view to ascertaining whether or not subjects are being taught which are of so unusual a nature as may be broadly classified as "fads and fancies."
- II. School Building Survey and Program:
 - (a) Survey of buildings which will become obsolete within the next ten years.
 - (b) A study of the growth and shifting of population as related to a building program.
 - (c) A comprehensive ten-year building program.
 - (d) Construction of high schools by sale of bonds (long-term or short-term) as distinguished from the "pay-as-you-go" policy.
- III. Survey of such other educational aspects of the school system as appear advisable to the Survey Committee, and which have a bearing upon the increased cost of the school system.

And be it further

Ordered, That His Honor the Mayor, the Chamber of Commerce and the Boston Real Estate Exchange be invited to nominate each one member of said Survey Committee who will thereupon be appointed by the School Committee to constitute the Survey Committee of seven with the following, who are hereby appointed:

HON. MICHAEL H. SULLIVAN, *Chairman*, former Chairman of the School Committee and former Chairman of the Finance Commission.

ARTHUR L. GOULD, Assistant Superintendent, Boston Public Schools.

WALTER F. DOWNEY, Head Master, Boston English High School.

ARCHER M. NICKERSON, Master, Frank V. Thompson Intermediate School.

And be it further

Ordered, That the Survey Committee be and hereby is authorized to employ such specialists and to appoint such sub-committees not of their own number and such clerical and other assistants as it deems necessary, with the approval of the Board; and

That the teachers and members of the supervising staff on the Survey Committee and on the sub-committees, if any, shall be

granted such leave with pay as shall appear proper and necessary to the School Committee; and

That all orders of reference now pending before the Board of Superintendents and the Board of Apportionment, related to and contained within the scope of the within survey, be and hereby are referred to the Survey Committee; and

That the Survey Committee shall report with all reasonable expedition the facts, results and recommendations of the within survey to the Superintendent and the School Committee.

Laid over.

In School Committee, April 9, 1928. Passed.

IN SCHOOL COMMITTEE,
April 23, 1928.

Ordered, That the order which establishes the personnel of the Survey Committee, as passed at the meeting of April 9, 1928, is hereby amended to include provision for the nomination of one member by the Boston Central Labor Union.

Ordered, That the order which establishes the personnel of the Survey Committee, as passed at the meeting of April 9, 1928, is hereby further amended to include provision for the nomination of a woman by the Boston Home and School Association.

Ordered, That the order which establishes a Survey Committee of seven, as passed at the meeting of April 9, 1928, is hereby amended to provide that the committee shall comprise nine members.

The following-named persons were appointed, by unanimous vote, to the Survey Committee:

DR. A. LAWRENCE LOWELL.
MR. CARL DREYFUS.
MR. FRANCIS R. BANGS.
MR. FRANCIS P. FENTON.

IN SCHOOL COMMITTEE,
May 1, 1928.

The following-named person was appointed, by unanimous vote, to the Survey Committee:

Mrs. WILLARD D. WOODBURY.

ITEMS OF UNFINISHED BUSINESS OF SCHOOL COMMITTEE REFERRED TO SURVEY COMMITTEE

The following items of unfinished business of the School Committee were taken up by that committee and referred to the Survey Committee:

1. Resolution relative to consolidation of the Schoolhouse Commission, laid over at the meeting of July 7, 1926. (See page 13, sect. *a.*)

2. Resolution directing an investigation of industrial education in the schools, presented at the meeting of September 12, 1927. (See page 13, sect. *b.*)

3. Order authorizing the establishment of an employment division, referred to the Board of Superintendents at the meeting of February 20, 1928. (See page 13, sect. *c.*)

4. Order authorizing the establishment of rapid advancement classes in all grades, presented at the meeting of March 12, 1928. (See page 13, sect. *d.*)

5. Request for report from Board of Apportionment on a comprehensive survey of building situation, laid over at the meeting of February 20, 1928, and at the meeting of March 5, 1928, taken up and referred to the Board of Apportionment for consideration and report. (See page 13, sect. *e.*)

6. Order calling for investigation into the cost of shops in intermediate schools, presented at the meeting of March 21, 1927, and the meeting of November 21, 1927. (See page 14, sect. *f.*)

7. Order directing consideration of the advisability of employing two field agents to be attached to and work in connection with the placement division. (See page 14, sect. *g.*)

8. Recommendation as presented at the meeting of January 18, 1926, relative to the introduction of a vocational course. (See page 14, sect. *h.*)

9. Order relative to appointment of Advisory Committee to the Superintendent on sites and plans for new school buildings. (See page 14, sect. *i.*)

ITEMS REFERRED TO IN ORDERS OF THE SCHOOL COMMITTEE

a. (See page 12, sect. 1.) *Resolved*, That the School Committee petition the next Legislature for legislation, the purpose of which will be the abolishment of the Schoolhouse Commission and the establishment of exclusive control of expenditures for all school purposes where such control properly and rightfully belongs, namely, in the School Committee, and that the said legislation be prepared and presented as expediently as possible by this Committee.

b. (See page 12, sect. 2.) *Resolved*, That the Superintendent be requested to report as early as is possible on the following points:

(1) How many of our pupils, trained in industrial classes, are being absorbed in the trades for which they are being educated?

(2) Are our courses of study meeting the requirements of the varied trade standards, both from the employers' standpoint and also from the journeymen's viewpoint?

(3) Are our costs mounting to a point where the cost of education of the individual pupil in industrial education is burdensome?

(4) Do we or should we have active consulting boards in each trade, comprising both employers and employees, who can aid in the formation of courses of study and who can also aid in the question of supply and demand in the various trades?

c. (See page 12, sect. 3.) *Ordered*, That an employment division be immediately organized to take over in its entirety the placement of girls and boys in full-time, part-time, and cooperative work.

d. (See page 12, sect. 4.) *Ordered*, That the Board of Superintendents is hereby requested to consider the advisability of establishing rapid advancement classes for all grades, and report the results of such consideration to this Board at an early date.

e. (See page 12, sect. 5.) That this Committee take steps to provide immediately for a comprehensive survey, not only of our actual school building needs but of the cost of school buildings as now erected, with a view of determining whether or not a

less expensive type of building which will adequately meet our needs may be provided by means of standardized or model plans for the different types of buildings, or by other means, and by the employment of qualified architects on an annual salary, rather than on a 6 per cent basis of cost of construction.

f. (See page 12, sect. 6.) That the Business Manager be instructed to bring in to this Committee, at his early convenience, an exhaustive report of the expenditures for junior high school shops, which report shall cover a period of years and, if possible, go back to 1916, and that the Business Manager shall work in collaboration with a committee of three heads of departments appointed by the Superintendent.

g. (See page 12, sect. 7.) *Ordered,* That the Survey Committee is hereby requested to consider the advisability of employing two field agents with vocational experience for the purpose of investigating business and industrial opportunities open to graduates of our schools in the interest of meeting the present employment situation, said field agents to be attached to and work in connection with the placement division.

h. (See page 12, sect. 8.) That a vocational course be introduced which shall include, first, vocational guidance; second, a survey of commercial Boston; third, the teaching of "getting jobs"; fourth, the teaching of "holding jobs."

i. (See page 12, sect. 9.) *Ordered,* That a Committee of three, to serve without pay, be appointed by the School Committee to serve as advisers to the Superintendent on sites and plans for the erection of new buildings and alterations of old buildings; that this Advisory Committee shall consist of an expert in school-house planning from an educational point of view, an expert from a health point of view, and an architect; that this Advisory Committee, with the approval of the School Committee, shall have authority to employ such paid experts and assistants as shall be necessary for the proper performance of their work.

AUTHORIZATION OF HIS HONOR THE MAYOR TO
EXAMINE ACCOUNTS RELATING TO SCHOOL
COMMITTEE APPROPRIATIONS ON FILE
IN THE CITY AUDITOR'S OFFICE

The Survey Committee wishes to acknowledge the cooperation of His Honor, Mayor Malcolm E. Nichols, in granting the request of the Survey Committee to examine accounts relating to School Committee appropriations on file in the City Auditor's Office. The communications stating the request of the Survey Committee and the reply of His Honor the Mayor follow:

September 26, 1928.

HON. MALCOLM E. NICHOLS,
Mayor, City of Boston,
City Hall, Boston, Mass.

DEAR SIR,— I am directed by the Survey Committee of the Boston Public Schools to respectfully ask your permission to allow the Survey Committee, or members of that Committee, or any authorized representative or representatives, to examine any accounts, pay rolls, vouchers or drafts, present or past, in the City Auditor's Office relating to appropriations made by the School Committee.

This permission may best be facilitated by a letter from Your Honor to the Survey Committee which its representative may present to the Auditor when seeking such information as is within his control.

Very truly yours,

WALTER F. DOWNEY,
Secretary.

September 27, 1928.

WALTER F. DOWNEY, Secretary,
The Survey Committee of the Boston Public Schools,
15 Beacon Street, Boston, Mass.

DEAR SIR,— I beg to acknowledge receipt of your letter under date of the 26th instant, requesting by direction of

the Survey Committee of the Boston Public Schools permission for authorized representatives of the Committee to examine accounts, pay rolls, vouchers, *et cetera*, relating to appropriations made by the School Committee, on file in the City Auditor's office.

Such permission is hereby given, and I have talked with City Auditor Carven who will be pleased to be of the fullest service possible in every way.

Respectfully,

MALCOLM E. NICHOLS,
Mayor.

PART I

SUMMARY OF FINDINGS AND RECOMMENDATIONS

FOREWORD

In accord with the preceding orders of the School Committee, the Survey Committee was organized at its first meeting on May 5, 1928. Since that time meetings of the full Committee have been regularly held from one to three times weekly. Subcommittees have devoted practically their full time to studies and investigations, the results of which have served as the bases of reports to the full Committee.

Among those who have appeared before the Survey Committee were the Superintendent of Public Schools, Assistant Superintendents, the Business Manager, the Schoolhouse Custodian, various directors, associate and assistant directors, principals and teachers, and representatives of the Massachusetts Department of Education.

In addition, a circular letter was addressed by the Survey Committee to all directors and principals requesting suggestions for sound economies in their particular fields. A letter was also published in over forty daily and weekly newspapers in this city requesting suggestions for possible economies which would not interfere with the effectiveness of instruction.

For certain parts of the work experts were employed to secure and present facts and give advice on special phases of the work.

The Survey Committee approached the problem with no set formula for testing the validity of present school expenditures. In its work it had as a chart to guide it the orders passed by the School Committee, and it also received from the same body broad powers to study such other related problems as were deemed necessary.

It was the wish of the School Committee that all important matters relating to costs be impartially scrutinized. Early in its study the Survey Committee determined what it considered the larger problems of school expenditures. As directed by the School Committee, each of the major problems was analyzed and studied as a separate unit and then in its relation to other items of school costs as well as to municipal expenditures as a whole. School costs of various other cities comparable in size with Boston were analyzed and studied in order to secure information con-

cerning school practices and procedures elsewhere. The questions considered in studying each problem were, in general, as follows:

1. What is the present policy?
2. Is the present policy productive of worthwhile results?
3. What modifications, extensions or limitations should be made?
4. What sound economies can be instituted?

Thus, although the prime object was economy in school costs, the Survey Committee resolved early in its work that no economies should be recommended which would deprive school children of essential educational opportunities.

In brief, the final determining factor was to ascertain whether the present school policy is educationally and economically sound, both as regards present and probable future needs of the school children of Boston.

Notwithstanding certain defects in the present school system, for the correction of which recommendations have been made in this report, the Survey Committee is of the opinion that, in general, the schools are soundly administered and the academic instruction on a substantial basis.

Inasmuch as approximately 30 per cent of the revenue of the city is devoted to the support of the schools, it is of the utmost importance that this money be used with all possible economy, so that the public may receive the maximum return for the large sum invested for the purposes of education.

In determining the form of the report, the Survey Committee has had in mind that a brief, direct statement would be of more value than a technical or theoretical discussion of all factors involved.

The findings and recommendations have been made only after careful deliberation by the full Committee and finally there has been unanimous agreement.

In the opinion of the Committee, a survey of this kind by representative groups might well be periodic at the end of every ten years. The results would be of value to the school system and to the citizens of this city.

The Survey Committee wishes to express its appreciation for the assistance which has been given by school officials, the press, and others who have contributed in any way to the study herewith presented.

MECHANIC ARTS COURSES WITH SPECIAL REFERENCE TO SHOP WORK IN THE INTERMEDIATE SCHOOLS

1. Selection of Pupils.—There is needed a more effective plan for the selection of pupils who are to take mechanic arts courses.

a. Guidance.—The value of this work is dependent upon carefully organized guidance by principals and teachers.

b. Caution.—There is danger that mechanic arts classes will be largely made up of those pupils who do not easily adapt themselves to the regular academic subjects. It is important that wise judgment be used and every possible means employed to discover the cause of failure in academic work. This is vital. An error here may later put the pupil to a great disadvantage.

c. Aptitude Tests.—Particular attention should be given to the problem of developing every kind of test which will assist in guiding in the proper selection of courses.

d.—Interests of Boys.—The interests and tastes that early adolescent boys think they have should not be taken too seriously. Any normal boy of this age likes to make things with his hands. Fluctuating and changing interests are characteristic of this period of adolescence.

e. Use of All Data.—The results of group general intelligence tests should be used very cautiously. They should be used only with all other available data, including general school record, attitude of the child toward school work, teacher's estimate, physical history and background. Where an important judgment relating to the child is needed, a scientific individual test is imperative. However, even the results of such a test should be considered only as related to other information available.

f. Responsibility.—It must be understood that the parent is the final arbiter in selecting a course for the child. The school can and should advise, but a final decision should be made only with the approval of the parent. The parent usually places implicit confidence in the school official. This grave responsibility should be discharged conscientiously and fully with proper regard for sound educational practice.

g. Follow-up Work.— After the child has been assigned to a particular course every means should be used to check the wisdom of the choice. Provision should be made for easy transfer to another course with a minimum loss to the pupil.

2. Substantial Quality of Academic Work.— The academic subjects taught in the industrial courses should be of substantial quality. They should not be so narrow as to apply only to the particular trade or industry which is being studied but should be broad enough to include the same objectives found in the academic courses. For this reason it would seem to be a wise policy to employ properly trained academic teachers to plan and teach academic subjects in all courses.

3. Vocational Pupils in Trade Schools.— The shop courses in Grade IX of the intermediate school should not be vocational as they now are. Pupils who make definite choices of vocational courses at the end of Grade VIII should be transferred to the trade schools or to the cooperative industrial high school courses. The advantages of this procedure are apparent.

a. Unnecessary Duplication.— These specialized schools are better equipped and organized to give this special type of training. The variety of equipment necessary to meet the various demands of ninth grade pupils cannot properly be extended to all intermediate schools. Such a policy inevitably results in extravagant and unnecessary duplication.

b. Intermediate Schools Non-vocational. Intensive training in a vocational course is not in harmony with the purpose of the intermediate school.

4. Academic Schools and Trade Schools.— Adequate provision should be made in the trade schools for pupils not adapted to the curriculum as given in intermediate or high schools.

a. Uniform Policy for Trade Schools.— In the trade schools for boys and for girls the policy does not appear uniform. Both schools receive substantial financial support from the state, as well as from the city. Both schools should, as the Trade School for Girls now does, provide short unit courses for pupils of proper age who are obliged to leave school for economic reasons or who are unable to profit by the regular course of study in the elementary, intermediate, or

high schools. Such a procedure is in harmony with the policy of state-aided trade schools and has the approval of the state officials in charge of this type of education.

5. Number of Shops.—There appears to be little relation between the number of shops and the number of pupils in the school.

a. Attention is called to the number of shops found in the following seven schools (as of May 31, 1929):

School	Enrolment	Number of Shops
A	982	4
B	1,450	4
C	741	5
D	1,068	6
E	1,076	3
F	878	5
G	1,074	6

It is difficult to explain these variations on the basis of educational need. It seems to the Survey Committee that there is not a well-defined policy for determining the number of shops which an intermediate school should have.

6. Organization.—The approved organization of an intermediate school is on the basis of thirty-five pupils to a teacher. The present regulation determining the allotment of teachers to a school applies only to the number of academic teachers and not to the shop teachers.

a. Standards of Organization.—It would seem that this practice of not including practical arts and shop teachers in the standards of intermediate school organization is due primarily to the fact that these teachers are assigned to their respective departments rather than to the schools in which they serve. This failure to include shop and practical arts instructors in the regular organization lessens the number of regular teaching hours of the academic teachers. It is obvious that a small school with a relatively large number of shop instructors will lead to a lighter teaching load for the academic teachers therein. A larger number of unassigned periods to academic teachers is a logical consequence of this variable assignment of teachers of industrial classes in intermediate schools.

7. Recommendations.— In view of these facts the Survey Committee recommends:

a. Teachers.— That in any intermediate school the number of shop and practical arts teachers combined should be not more than one-fifth ($\frac{1}{5}$) the number of academic teachers assigned to that school or district.

b. Space.— That in any intermediate school the amount of space devoted to mechanic arts and practical arts should be not more than one-fifth ($\frac{1}{5}$) the amount of space devoted to academic instruction.

c. Exceptions.— If, for any reason based upon peculiar local conditions, it seems advisable to modify these standards, special authorization must be obtained from the Superintendent of Schools.

d. Savings.— This change will result in a substantial saving of money in building costs and in salaries of instructors.

8. Responsibility to Principal.— All teachers of a school, whether shop or academic, should be directly and equally responsible to the principal of the school. He is the responsible agent appointed by the School Committee to direct the education of the children entrusted to his care. He is largely responsible for the courses of study which his pupils elect to follow. The teachers of mechanic arts and practical arts should be a part of his organization.

a. Supplies and Supervision.— In so far as requisitioning for supplies and equipment for mechanic arts and practical arts is concerned, the principal should be held responsible as he is for all other supplies and equipment. He is in a better position to judge what is proper in apportioning his expenditures because he is in daily contact with what is being done in all courses in his school. In the matter of technical supervision he will be guided by the experts appointed by the School Committee for this purpose, but directions to all teachers of industrial, as well as other branches, should be given by and through him. Otherwise there will be a school within a school and a division of responsibility which cannot but result in harm to general school morale.

9. Rapid and Widespread Development.— The Survey Committee is of the opinion that a rapid and widespread development of numerous intermediate shop courses with costly equipment and upkeep is unsound educationally and financially.

a. Aims.—Manual training for developing skill and coordination of eye and hand has long been in use in the Boston public schools; but the objects of the recent shops in the intermediate and secondary schools are quite distinct. Two such aims are claimed for the industrial courses of the intermediate schools: (1) that they enable the boy to discover what his real aptitudes are; (2) that they keep many boys in school who would otherwise not be willing to stay.

b. First Aim.—In regard to the first object, a far simpler equipment would seem to be sufficient for the purpose. A boy does not have to try many forms of industrial work to find out that such work is what he wants. Little more, therefore, can be discovered in regard to a boy's aptitudes and inclinations than that he prefers some kind of mechanical industrial work to that of a clerical or other nature, and for this purpose the very elaborate shops and the very great expense of the present day are not justified.

If the boy has not selected his trade, he cannot be specifically trained for it, but only given a certain dexterity, the appreciation of the relation of means to ends, and the attitude of mind that applies to all trades. In that case also the elaborate shop is not needed, certainly until the final preparation for a particular trade.

c. Second Aim.—The second aim—that of keeping boys at school who would otherwise leave—has very much two sides. The mere keeping of the boy in school is not wise, unless he gets more benefit from the school than he would outside it, and especially in an actual job. Schooling which boys are tempted to take because it is pleasanter than the work of the world may have a bad effect upon them. Herein lies a danger to the school itself, for if the shop work, by which the boys are tempted to remain longer than they otherwise would, is generally regarded in the school as easier than the academic courses it is liable to have a demoralizing effect upon the whole school by reducing the standard of effort. For it must be remembered that study is an effort, performed by no means wholly for pleasure, but from a sense of duty or ambition, and the offer of an alternative, which is said to be just as good for these purposes and less irksome, tends to lower the standard for the ordinary boy—whether he takes the easier course or is compelled to take the hard one. For most boys, work in the shop is easier than work

at the desk, and therefore if it is to be continued as a rival course it ought to be made sufficiently more strenuous in requirements or hours to counter-balance that difference.

d. The Policy Relating to Academic Training.— The Committee is unanimous that it is desirable for every child to continue his academic training as long as possible. It is this that develops the power of thought. It is this that furnishes interests and resources apart from one's trade and gives a tone of cultivation to the home. There is danger of tempting young people away from the academic into mechanical subjects during the period of school education.

e. Costs.— The present system of shops is experimental. This type of work is very expensive. The figures from eight intermediate schools show that the cost of instruction per pupil-period in the manual arts averaged .119 as against .067 for the academic courses. In other words, the cost was nearly double. It seems to the Committee that the present expense of conducting these shops is excessive, in view of the fact that they are carried on, in virtue of a theory whose value is not yet proved by experience, at a very large expense to the city, that could be well used in meeting some of the other needs of the children in the Boston public schools.

10. Recommendation.— In view of the statements set forth, the Survey Committee recommends that, except in the strictly vocational schools, the shop equipment should be merely for the purpose of training the hand and the eye, and should not be allowed to interfere with academic purposes.

11. Standard Shop Equipment Recommended.— The Committee recommends that the standard equipment of intermediate shops be limited to the following:

1. Woodworking.
2. Printing.
3. Sheet Metal.
4. Electricity.

The above are selected because:

a. They are desirable on the basis of their educational values.

b. The types of training may easily be coordinated with the academic subjects of the curriculum.

c. These four types of shop work may readily be organized as the core of the general shop.

The General Shop

12. Generalized Instruction.— There is a tendency toward generalized instruction in the intermediate school curriculum. General mathematics and general science are widely accepted, their purpose being to give a broad extensive view of these subjects rather than an intensive viewpoint in a more restricted field.

13. Correlation.— The general shop is in line with this policy for it differs from a unit shop, the type now in use, in that it is equipped to carry on simultaneously different activities, such as woodworking, printing, sheet metal, electricity. Furthermore, the activities are not taught as distinct units but are organized into a comprehensive correlated subject forming a well-defined course of study.

14. Advantages.— There are several advantages offered by the adoption of the general shop in our intermediate schools. A few of these advantages are the following:

- a. The broader educational possibilities of the general shop.
- b. The possibility of organizing, without special equipment, a home mechanics course, where pupils can be given instruction in such simple tinkering, repairing and construction as are often needed in the home.
- c. Reducing the danger of possible over-emphasis of trade training at this stage.
- d. Reducing the danger of too early vocational choice.
- e. Greater economy by standardizing all intermediate shop equipment without educational loss.
- f. Provisions for caring for more pupils during a recitation period.
- g. Elimination of educational loss due to transfer within the school or from district to district.

Recommendations

15. The Survey Committee therefore recommends:

- a. That the general shop be the standard equipment for intermediate schools.
- b. That these shops include woodworking, printing, sheet metal and electricity, organized so as to include a course in home mechanics.

c. Strict economy and utility should be the basis for the selection of equipment in the intermediate schools.

d. Some of the equipment to be used should be made in the trade schools, Mechanic Arts High School, and in the various cooperative industrial courses.

e. No dangerous machinery should be used in these shops. Such power machinery as the band saw, rip saw, circular saw and buzz planer should be eliminated.

COOPERATIVE INDUSTRIAL CLASSES IN DAY HIGH SCHOOLS

Present Organization

Cooperative industrial classes, established in the Boston school system over fifteen years ago, are now found in seven of the seventeen high schools. A cooperative agricultural class is found in one high school. In these cooperative classes, part-time training is provided in the following trades: Auto Mechanics, Electricity, Printing, Sheet Metal, Machine Shop Practice, Woodworking and Agriculture.

Housing Cooperative Industrial Classes

In the newer high school buildings the school shops are located in parts of the building which would ordinarily be devoted to the purposes of academic instruction. In the opinion of the Survey Committee the policy of housing the school shop within the school building proper is decidedly questionable. The cost per classroom of a modern high school is so high as almost to preclude the use of any considerable portion of the instructional area for shop purposes. It would seem a wiser and certainly a more economical plan to place these shops in a separate building or annex connected with the main building. Such building or annex should not be of the type of construction used in the high school proper, but rather of the shop type of construction common to industry.

Control

1. Cooperative Classes in High Schools.— The cooperative industrial classes are organized in general high schools. The classes devoted to industrial work do not seem to be organized as a department, such as the science or commercial department, but they appear to form a separate unit. It seems to be almost a school within a school. For all practical purposes the head master has little or no jurisdiction over this part of the school.

2. Responsibility to Principal.— The Survey Committee again calls attention to the need of having the head master of the school direct all activities within his school. He is the responsible agent appointed by the School Committee to direct the education of the children entrusted to his care.

3. Supervision. Teachers of the cooperative industrial classes should be a part of the school organization. The coordinator should be head of this particular department, and should bear the same relationship to the head master as, for example, the head of the science or history department. In the matter of supervision, the head master will be advised by specialists in this field, but directions to teachers of all branches should be given by and through him.

4. Supplies.—In so far as requisitioning supplies and equipment for cooperative industrial classes is concerned, the head master should be held responsible, as he is for all other supplies and equipment. He should be assisted by the coordinator.

Machine Shops

1. Elaborate Equipment.—The equipment of these shops is elaborate, not only in quantity but also in variety and quality. Some of the complicated and expensive machines are used only occasionally. In one high school the cooperative industrial division organized around machine shop practice occupies 25 per cent of the instructional area of the entire building. The cost of equipment for this division probably exceeds the cost of the equipment for all other departments combined. Yet the number of pupils using this equipment, and only for a part of their time, represents but 17 per cent of the entire membership of the school.

2. Part-Time Use. It must also be understood that boys of Grades XI and XII obtain practically all of their shop training in industry, and that the time spent in the school shop diminishes progressively from Grade IX to Grade XII. It is obviously not desirable to attempt to reproduce actual shop conditions within the school for to do so means a duplication of equipment.

3. Space.—For these reasons the Committee believes that as a department in a comprehensive high school the space provision for industrial classes, together with the large cost thereof, is difficult to justify on the basis of sound economy.

Academic Courses

1. State Requirements.—It is the general policy of the State authorities who are in charge of cooperative industrial classes, for which reimbursement by the State is allowed, to demand of all teachers, academic and shop, the completion of a full year's course prescribed and given under the direction of the State authorities. According to the plan set up by the State, the

teachers of academic subjects in cooperative industrial courses should be selected from those especially trained in related industrial and academic work.

2. Cultural Values.— In emphasizing the industrial applications of academic subjects, there is grave danger of narrowing the scope and treatment of these subjects. Broad academic training should be pursued as long as possible. The Committee repeats that it is this that furnishes interests and resources apart from one's trade, and promotes the general cultivation of the home.

3. Academic Subjects.— The academic subjects in the cooperative courses should be of broad educational content. Therefore, industrial application should not dominate the treatment and selection of subject-matter. By proper organization effective correlation may be made and yet retain the cultural values of such basic subjects as English, History, Mathematics and Science. Teachers should be selected who are equipped by training and experience to fulfill the requirements of the industrial aspects of these courses and who at the same time are qualified to give the student that broad cultural outlook so essential to the complete development of the worthwhile citizen.

Possible Further Expansion

1. Need of Study.— Before there is further expansion of cooperative industrial work, the Committee believes that a careful study should be made of the value of the courses now organized as well as the need of additional trained workers in the trade selected as the basis of the new cooperative course.

Since at present there is provision for training in a variety of trades, additional courses of this kind should not be established until there is definite evidence that present facilities are inadequate.

Advisory Committees.

1. Advantages.— The Survey Committee is of the opinion that manufacturers, employers and organized labor should be represented on the several advisory committees connected with the cooperative industrial classes in high schools. Important advice and assistance in the necessary modification of courses of study will be available from those who have expert knowledge of the practical needs of industry and of the opportunities afforded pupils for advancement. In this manner, the placing of members of the cooperative industrial classes, which at best presents many difficulties, will be greatly aided.

PRACTICAL ARTS WORK FOR GIRLS

1. **Present Status.**— Practical arts work is required of all girls from Grades IV to VIII, inclusive, with elective courses offered in the intermediate and high schools. There are also two schools specializing in this type of work — the High School of Practical Arts and the Trade School for Girls — and day and evening classes for adults. The basic courses are cookery, sewing, millinery, household science, and home management.

a. **Aims.**— While in many respects the aims and value of practical arts for girls are identical with those of mechanic arts for boys already stated in this report, it should be noted that a comparatively small number of girls elect such work to prepare themselves to enter one of the related trades, such as dressmaking or catering. The “exploratory” value of such courses, then, is almost negligible if considered from the point of view of helping a girl to decide how best to earn her living, but of inestimable worth if it enables her to discover and train her ability as a future homemaker.

2. **Scope and Equipment.**— From a study of the household arts curricula for girls, it appears that these courses have been more restricted in equipment, scope and variety than those offered to boys in mechanic arts. The work of the boys should be reduced and that of the girls expanded.

a. **Broad Training.**— This recommendation for expansion is based upon the fact that the most common career for women is marriage. It must be understood, however, that while the need of comfort in the home cannot be overestimated, training for that purpose should always be subordinated to training for the larger aspects of life.

b. **Homemaking.**— An industrial age, by withdrawing the father of a family from daily intimate association with his children, has thrown more responsibility upon the mother. She gives to the home its tone, and the community is deeply concerned that she should have a real taste for good literature, history and other things that elevate the mind. It is not too much to say that the attitude toward life of the next generation depends upon that of the mothers, upon their interests, their sentiments and their ambition for their children. The Survey Committee feels that the education of girls should be planned from this point of view more than it is now.

3. Proper Balance.— There should be a proper balance between the broader aspects of instruction and the production phase of the courses. The terms “clothing” and “food” imply a broader range of knowledge than “sewing” and “cookery.” Girls need training in the selection of clothing and food as well as in their preparation. The larger aspects of the course should receive greater emphasis.

4. Requirements.— The requirements of the course as regards effort, study and application should extend beyond the period of classroom instruction just as is the case in the major academic subjects. Definite home lesson assignments should be given regularly.

5. Supply of Teachers.— The supply of well-trained teachers in some lines of practical arts work appears to be limited. There are few schools near Boston where this training may be obtained.

6. High School of Practical Arts.— It is recommended that modifications be made in the courses in the High School of Practical Arts so that opportunity will be provided for properly qualified girls to enter higher institutions of learning which specialize in this type of training.

7. Qualifications of Teachers.— The qualifications for teachers of practical arts should be substantially higher than at present.

8. Substantial Quality of Courses.— All courses in these schools should be of substantial quality. The effort required of the pupils for their satisfactory completion should be such as to place the course on an equal basis with that of any major academic subject.

9. Organization Standards.— Due to the small number in the class units the instruction cost is approximately double that of academic subjects. In view of this fact and in order that the organization of this work may be on a sound basis of economy, the Survey Committee recommends that standards be revised, as follows:

a. Teachers.— That in any intermediate school the number of shop and practical arts teachers combined should be not more than one-fifth ($\frac{1}{5}$) the number of academic teachers assigned to that school or district.

b. Space.— That in any intermediate school the amount of space devoted to mechanic arts and practical arts should be not more than one-fifth ($\frac{1}{5}$) the amount of space devoted to academic instruction.

c. **Exceptions.**— If for any reason, based upon peculiar local conditions, it seems advisable to modify these standards, special authorization must be obtained from the Superintendent of Schools.

10. Accommodations and Equipment.— Particular attention should be given to proper accommodations for pupils selecting these courses. In many of the older buildings the rooms are seriously lacking in proper light, ventilation and equipment. Immediate attention should be given to the problem of providing quarters approaching the standard of those now being supplied in new intermediate and high schools. There should be a study of equipment in all rooms in which household arts instruction is offered in order that unnecessary equipment be eliminated and in its place modern labor-saving devices introduced.

11. Broader Vocational Opportunities.— Broader vocational opportunities should be provided in the Trade School for Girls. Such courses as the following are not now given in the Trade School for Girls:

Bookbinding	Photography
Hairdressing	Pottery
Interior Decorating	Printing
Jewelry	Telegraphy.

12. Adult Courses.— In order that increased emphasis may be placed on homemaking and community aspects of the work, the Survey Committee recommends the extension of adult courses in household and practical arts.

13. Cooperative Courses for Girls.— Careful consideration should be given to the establishment of cooperative courses for girls in the field of household arts, established on the same basis as corresponding courses for boys.

14. Household Mechanics for Girls.— In the intermediate schools opportunity should be provided for girls to enter the proposed courses in household mechanics.

15. Responsibility to Principal.— Attention is again called to the need of having the principal of the school direct all activities within his school. Teachers of practical arts should be appointed to the school and not to the department as at present. The principal should be held responsible for obtaining all supplies and equipment but should receive such technical advice as is necessary from the experts in this department.

THE CURRICULUM WITH SPECIAL REFERENCES TO SO-CALLED "FADS AND FANCIES"

The Curriculum *

1. Fundamental Problem.— The problem of what to teach in the schools is fundamental. The solution of this problem controls not only classroom procedure, but likewise organization, building construction, equipment, maintenance and use. It is, therefore, essential that there be a continuous study of every part of the curriculum to examine its aims, to test the worth of the materials of instruction, and to measure, in so far as possible, the educational values.

2. The Public.— The public is often at a loss to understand the need of changes, revisions and extensions. Failure in this regard frequently promotes a feeling of uncertainty and even arouses at times an attitude of suspicion that some modifications made have little or no justification.

3. Curriculum Revision.— Yet it must be understood that the modern curriculum is a necessary though often a tardy expression of the needs of society. The curriculum reflects the changing spirit of the modern age, an age of phenomenal progress, challenging in its nature and complicated in its problems. Thus, as civilization progresses, old and useless material must be discarded, new elements must be introduced, and new adjustments must be made to meet the demands of rapidly changing industrial and social needs.

Fads and Fancies

1. Special Departments.— The question of fads and fancies has been the subject of investigation by numerous educational bodies. The meaning of the terms are so indefinite that the results of these investigations offer little in the way of constructive suggestion.

However, the Survey Committee notes that there has been a great expansion of special departments within the last ten years. In fact, the rate of growth in personnel has far exceeded the rate of increased membership in the public school system. There appears to be a tendency for the special departments to increase the scope of their work by means of a growing personnel. The problem for the school authorities is to guard against undue

* See pages 40-47, The Expansion of Curricula in Boston.

expansion to the end that special departments shall be kept in due proportion to other parts of the school system.

2. Curriculum Control.—The real problem is to guard against unwarranted expansion of new curricula. Accordingly throughout the report the Survey Committee has recommended modifications of present procedure whenever in its opinion a change appeared to be desirable.

It has given careful attention to necessary economies but it has not lost sight of the educational values of the new subjects of instruction.

In its recommendations the Survey Committee believes that the suggested changes will be a distinct saving financially and will also be educationally advantageous to the pupils.

3. Attempt to Secure an Expression of Public Opinion.
—To secure the opinion of the public relating to parts of the curriculum which were open to possible criticism, the Survey Committee, through the local press, addressed a communication to the public at large.

This letter was published in forty daily or weekly newspapers in this city. Two of these newspapers wrote editorials urging citizens to forward their criticisms to the Survey Committee as requested in the published letter.

Even with this widespread publicity the results were entirely negligible. The Committee is of the opinion, therefore, that there appears to be little evidence that the public desires to express itself in specific terms concerning this and related topics.

Changes in School Policy

1. Additions.—While progress in education as well as in industry necessitates wisely directed experimentation, new subjects should not be added to the curriculum nor school policies revised except as the result of careful and deliberate study. Educational value and specific need must of necessity be the final determining factors.

2. Eliminations.—The elimination of a well-established school activity or policy should come only as the result of careful consideration of well-determined evidence and the conclusion that such activity or policy is no longer of sufficient merit to justify the cost of its continuance.

Course in Character Training

1. All Schools.—A course of study in Character Training for Kindergarten through Grade XII has been developed by groups of principals and teachers working with members of the supervisory staff.

In the elementary and intermediate schools a definite daily period is set aside for this work. Suggestive material is prepared by groups of principals and teachers in the form of a monthly bulletin, a copy of which is sent to every teacher of the elementary and intermediate schools.

In Grades IX–XII, with the development of instruction on the departmental basis, there is a grave danger that in pursuit of his own specialty, the instructor may tend to teach the subject rather than the pupil. To offset this possible tendency, the manual for the guidance of teachers of the secondary schools aims to place increased emphasis on character training in every phase of student activity — in and out of the classroom.

2. Specific Guidance.—While it is recognized that the fundamental aim of all the work of the schools is character training, and that the results of education are most effectively promoted by seeking to develop right moral attitudes on the part of pupils, it is the belief of the Survey Committee that these objectives are strengthened both in pupil and teacher by the specific guidance offered in a definite course of study.

3. Value.—The moral training resulting from the conscious and sustained effort to do thorough work in school as a moral obligation is of inestimable value. In so far as this can be brought to the attention of the pupil through direct instruction of an able and enthusiastic teacher, it is decidedly worth while.

Courses of Study in General

1. Academic.—In general, the courses of study in academic subjects are well organized. They show evidence of recent study and revision by committees of teachers working in cooperation with members of the Board of Superintendents.

2. Related Subjects.—As has been stated elsewhere in this report, the academic subjects in the industrial curricula should be organized on the same broad educational basis.

Specialized curricula are often narrow in scope and purpose. With proper regard for necessary correlation and industrial

application when needed, all academic training offered in all courses should reflect fully the complete cultural values of the subjects taught.

The Point System of Diploma Credits in Grades VII-XII

1. Quantity Rather than Quality of Work.—The Survey Committee feels that the point system of recording academic credit has a tendency to set a standard of quantity rather than quality of work. For the pupil in the secondary school, this system sets a premium on mediocrity. A superior student receives the same diploma credit as that given to a student who satisfies minimum requirements. There is a further tendency to accumulate “points” on minor subjects, and credit is even given for work done outside of school. A student may make up deficiencies in regular academic work by receiving credit from these sources.

2. Present Requirements.—A diploma is awarded to a pupil when he has earned one hundred (100) points, and satisfied all diploma requirements in Grades VII-XII, inclusive. The amount of work represented by one period a week of prepared work for one year counts as one diploma point. A full year's work consists of twenty (20) points, except Grades VII and VIII. The work of these two grades combined constitutes one unit of twenty (20) points.

The points offered for a diploma must include the following:

- a. Four points in physical education in grades above the eighth.
- b. One point in hygiene after the completion of Grade VIII; two points are allowed provided one has been earned in Grades VII and VIII.
- c. Sixteen points in English.
- d. At least seven points in the same foreign language, or in phonography and typewriting, or in drawing.
- e. At least seven points in mathematics, or in bookkeeping and clerical practice.
- f. At least three points in history or civics after the completion of Grade VIII. The State law requires “one or more courses in American history and civics.”
- g. At least three points in science after the completion of Grade IX.

3. Recommendations.— In consideration of these facts relating to the work of Grades VII through XII, the Survey Committee recommends:

a. Distribution.— That to obtain a diploma from a secondary school, three-fifths of the required one hundred credits be earned in Grades X, XI, and XII, at least fifteen points of which must be twelfth grade work.

b. Full Course.— That possible graduation at the conclusion of Grade XI be discontinued with the exception of special cases recommended for accelerant work in the Summer Review High School.

c. Electives.— That within the various curricula — such as college preparatory, technology preparatory, accounting, secretarial, salesmanship and general — the number of electives be reduced.

d. Graduation with Honors.— That for pupils who secure Grades of A or B in two-thirds or more of the major subjects pursued in Grades X, XI, and XII, or four-fifths of the subjects pursued during the graduating year, a special diploma "WITH HONORS" be given by the School Committee.

e. Scholarship Standards.— That head masters of high and Latin schools, and masters of intermediate schools carefully study the problem of improving the desire and respect for scholarship in their schools, with a view to recommending to the Board of Superintendents further definite revision of the present procedure.

The Expansion of the Elementary Curriculum in Boston, 1635=1925

1635-1700	1789	1830	1860	1890	1925
Cyphering, Reading, Writing.	Accounting, Arithmetic, Composition, Grammar, Reading, Spelling, Writing.	Arithmetic, Bookkeeping, English (probably Composition), Geography, Grammar, Reading, Spelling, Writing.	Arithmetic, Geography, Grammar and Com- position, History of the United States, Music, Physiology and Hy- giene, Reading, Spelling, Writing.	Arithmetic, Drawing, Geography, Grammar and Com- position, History of the United States, Manual Training, Music, Physiology and Hy- giene, Reading, Spelling, Writing.	Arithmetic, Character Education, Drawing, Elementary Science, English: Composition, Conversation, Grammar, Literature, Reading, Spelling, Geography, Health Education, History of the United States, Household Science and Arts, Manual Training, Music, Nature Study, Penmanship, Physical Education.

1647.—Township of 50 householders required to appoint a teacher of children "to write and read."

1682.—Boston voted at town meeting to establish schools "for the teaching of children to write and cypher," probably the beginning of Boston's public elementary schools.

The Expansion of the Intermediate Curriculum in Boston, 1913=1929

1913	1929
<p>English: Composition, Grammar, Literature, Reading, Spelling. } Taught as a combined course.</p> <p>History: Ancient, United States, Community Civics.</p> <p>Foreign Language: French, German, Italian, Latin, Spanish.</p> <p>Mathematics: Arithmetic, General.</p> <p>Geography, Drawing, Drafting.</p> <p>Art Education, Household Science and Arts, Manual Training, Mechanic Arts, Clerical Practice, Penmanship.</p> <p>Character Education, Hygiene and Physiology, Physical Training, Choral Practice, Music.</p> <p>Guidance (Educational and Vocational).</p>	<p>English: Composition, Grammar, Literature, Reading, Spelling. } Taught as a combined course.</p> <p>History: Ancient, United States, Community Civics.</p> <p>Foreign Language: French, German, Italian, Latin, Spanish.</p> <p>Mathematics: Arithmetic, General.</p> <p>Geography, Drawing, Drafting.</p> <p>Art Education, Household Science and Arts, Manual Training, Mechanic Arts, Clerical Practice, Penmanship.</p> <p>Character Education, Hygiene and Physiology, Physical Training, Choral Practice, Music.</p> <p>Guidance (Educational and Vocational).</p>

The Expansion of the Secondary Curriculum in Boston, 1635=1925

1635-1800 (Public Latin School)	1825 (High and Latin Schools)	1875	1925
<p>Latin. *</p> <p>Greek. *</p> <p>English:</p> <p>Grammar.</p> <p>Composition.</p> <p>Rhetoric.</p> <p>Declamation.</p> <p>Mathematics:</p> <p>Arithmetic.</p> <p>Algebra.</p> <p>Geometry.</p> <p>Trigonometry.</p> <p>Surveying and Navigation.</p>	<p>English:</p> <p>Composition.</p> <p>Declamation.</p> <p>Literature.</p> <p>Rhetoric.</p> <p>Reading.</p> <p>History:</p> <p>Ancient.</p> <p>Constitution of United States.</p> <p>American.</p> <p>Foreign Language:</p> <p>French.</p> <p>German.</p> <p>Greek.</p> <p>Latin.</p> <p>Mathematics:</p> <p>Algebra.</p>	<p>English:</p> <p>Composition.</p> <p>Grammar.</p> <p>Literature.</p> <p>Public Speaking.</p> <p>Rhetoric.</p> <p>History:</p> <p>Ancient.</p> <p>Community Civics.</p> <p>Constitution of United States.</p> <p>English.</p> <p>Medieval.</p> <p>United States.</p> <p>Science:</p> <p>Biology.</p> <p>Botany.</p> <p>Chemistry.</p> <p>Introductory.</p> <p>Physics.</p> <p>Related.</p> <p>Business:</p> <p>Advertising and Journalism.</p> <p>Banking, Finance and Insurance.</p> <p>Bookkeeping.</p> <p>Civil Service.</p>	<p>Mathematics:</p> <p>Algebra.</p> <p>Plane Geometry.</p> <p>Solid Geometry.</p> <p>Trigonometry.</p> <p>Related.</p> <p>Foreign Language:</p> <p>French.</p> <p>German.</p> <p>Greek.</p> <p>Italian.</p> <p>Latin.</p> <p>Spanish.</p> <p>Drawing:</p> <p>Appreciation of Art.</p> <p>Drafting.</p> <p>Freehand.</p> <p>Mechanical.</p>

Latin. Greek.	Geography. Bookkeeping. History: General. United States. Natural. Natural Philosophy (Physics). Chemistry. Moral Philosophy and Nat- ural Theology. Evidences of Christianity. Political Economy. Logic. French.	Commercial Arithmetic. Geometry. Navigation. Trigonometry. Science: Astronomy. Botany. Chemistry. Mineralogy. Physical Geography. Physics. Physiology. Business: Bookkeeping. Penmanship. Drawing. Military Drill. Moral Philosophy.	Clerical Practice. Commercial Arithmetic. Commercial Geography. Commercial Law. Economics. History of Commerce. Merchandising. Office Practice. Secretaryship. Shorthand. Typewriting. Manual Arts. Household Science and Arts. Shopwork: Agriculture. Auto Mechanics. Electricity. Machine Shop. Sheet Metal. Printing. Woodworking. Military Drill. Physical Education. Hygiene. Choral Practice.
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* Public Latin School only.

English, Penman-
ship and Arithme-
tic were obtained in
Reading and Writ-
ing Schools, some-
times conducted by
Latin School mas-
ters.

The Development of the Elementary Curriculum in Boston

The following excerpt from School Document No. 3, 1900 — "Report of the Board of Supervisors on Matters Relating to the Course of Study in Primary and Grammar Schools" — contains a brief statement of the development of the course of study in the elementary curriculum:

"The Board of Supervisors is asked to consider the course of study, with reference to three possible modifications: first, whether it may be simplified; second, whether some studies may be made elective, and third, whether the studies may be rearranged.

"Replying to the first question, if by simplifying is meant omitting some subjects entirely, the Supervisors do not recommend it, with one or two possible exceptions to be mentioned later. There is much current criticism of the course of study now in use in the elementary schools. It is described as overloaded and complex. Its subjects of study are classified as essentials and non-essentials, and it is charged that the essentials are crowded out by the others. The others are called frills and fads. This course of study is supposed to have been recently invented by educational theorists and cranks.

"These opinions involve so much of misapprehension as to justify treatment of the subject somewhat at length. The statutes of Massachusetts require that in all the common schools instruction be given in orthography, reading, writing, English language and grammar, geography, arithmetic, drawing, history of the United States, physiology and hygiene, and manual training in cities and towns having more than 20,000 population. The statutes authorize instruction at the discretion of school committees in the following branches: bookkeeping, algebra, geometry, one or more of the foreign languages, elements of natural science, kindergarten training, agriculture, sewing, cooking, vocal music, physical training, civil government and ethics.

"The extension of the primitive curriculum has been going on steadily for more than a hundred years. Each addition after being tested and having commended itself to public opinion has received the sanction of legislative enactment and has become a compulsory study. The causes and the forces behind all this enlargement have been sociological and not pedagogical.

"To the reading and writing of the colonial school, subjects have been added in the following order: English grammar, spelling and arithmetic in 1789; geography in 1826; history of the United States in 1857; music (optional) in 1860; drawing in 1870; sewing (optional) in 1876; physiology in 1885; manual training in 1898. Several of these subjects were at first allowed, and later required. Thus physiology was allowed in 1850, required in 1885. Drawing was allowed in 1860, required in 1870. Manual training was allowed in 1884, required in 1898.

"The introduction of each of these new subjects has a historical and social setting. Geography was made a compulsory study in 1826. Between 1789 and 1826 there had been great territorial changes in the United States, Florida and Louisiana had been purchased, and the expedition of Lewis and Clark had revealed the magnitude and importance of this great territory reaching to the Rocky Mountains and beyond. Settlement had pushed itself far beyond the Alleghanies, and there was scarcely a town in Massachusetts which had not sent some of its people into the Great Northwest. Eleven new states had been added to the Union. Commerce had been developed and ships of the country were sailing all seas. The navy had distinguished itself in the War of 1812, and Decatur had introduced the United States to the piratical powers of Barbary. Out of all this had grown wide international relations. It is not surprising that in an era of such expansion the thoughtful people of Massachusetts began to think of geography as an 'essential' factor in the education of their children.

"The history of the United States was added in 1857. During the preceding thirty years great social changes had taken place. The establishment of the new manufacturing industries had attracted to the State a large foreign population, and the unsuccessful revolutions throughout Europe in 1848 had swelled the number to 200,000 in 1850. These people were ignorant of the history and traditions of their new home, and they needed and desired to be enlightened. At the same time the country was in the throes of the anti-slavery struggle, and great constitutional questions were at issue. The appeal on both sides was to the opinions and acts of the fathers—to history. The public discovered that a knowledge of the history of the country had become an 'essential' of popular education, and they declared their opinion by a statute.

"Drawing was added in 1870. This followed close upon the

great Paris Exposition of 1867, where the superiority of continental nations to England and America in all the artistic features of manufactured products was startling and humiliating. It is most significant that the original petition to the Legislature in 1869 for compulsory instruction in industrial drawing was signed exclusively by business men, leaders in the great industries of the Commonwealth. They declared that for the United States to maintain its standing as a manufacturing nation drawing was an 'essential' in elementary education. For similar reasons manual training was introduced.

"Of the authorized subjects several have been forced into the front rank of 'essentials' by modern social conditions. This is true of sewing, cooking, physical training and elementary science. The latter under the modern title 'nature study' has peculiar claims.

"Reading has always been deemed of fundamental importance, and in early times children passed easily through the narrow gateway of the alphabet into the broad fields of literature. The passage was easy because the children and the writers of literature had had the same experiences; both had lived in the country and had been familiar with nature in all its phases. The writers had reflected all these phases in their books. They were observers and lovers of nature and they wrote for such. Much of the vocabulary they used, and all their imagery, expressed ideas and scenes of nature. When country life was universal, the children had only to learn the word symbol, and they had the master key to open all doors. The transition from the primitive country life to the modern city life threw a barrier across the way, and for thousands of children easy progress became impossible. They could learn the symbols as before, and could read words, but the words conveyed no meaning. The language was essentially a foreign language. Now in city schools the road to intelligent reading is through nature study. The same line of work is essential as a preparation for the study of geography. Indeed, it might all be included under the name geography in any formal statement of a course of study.

"The same change in social conditions is responsible for the introduction of physical exercises into the schools. The limited opportunities which the city affords for free play and the small demands of modern home life upon the bodily activities of chil-

dren have seemed to call for some counteracting efforts, and tentative beginnings have been made in various forms of school exercises.

"This sketch, necessarily brief, shows that the present elementary school course is not a miscellaneous collection of subjects brought together by the chance efforts of enthusiasts, but a conscious and intelligent effort of the people to frame a course of elementary instruction and training adapted to the changed conditions of social life. In view of these considerations, the Supervisors believe that the omission of any of these subjects would be a retrogression which public opinion would not sanction."

PROVISION FOR ACCELERATION OF PUPILS

1. Present Experiments.—The Survey Committee notes with favor the present experiments in providing for the acceleration of pupils in a small group of Boston schools of various types.

2. Extensions.—These experiments may well be extended with a view to increasing the opportunity for pupils of superior ability. A pupil should advance at a rate commensurate with his ability. Special provision is more frequently made for pupils of inferior ability. Waste may be prevented and excellent salvage work accomplished by a prudent selection of groups of the best students and by providing proper facilities for their rapid advancement.

3. An Inquiry.—Following are given the results of a questionnaire sent to several cities relating to provisions made in those cities for the acceleration of pupils.

THE QUESTIONNAIRE.

The questions sent to the Superintendents of Schools were the following:

1. In which grades do you permit rapid advancement in pupils?
2. In which grades can the rapid advancement of pupils be used most advantageously?
3. If you use the X Y Z plan, do you permit rapid advancement of pupils?
4. What per cent of your elementary school pupils received extra promotion during the year 1927-1928?
5. What method do you use to accelerate pupils?
6. How many years have you used your system of rapid advancement?
7. Check the factors which are considered in your plan of rapid advancement.
8. Results of your experiment in the rapid advancement of pupils.
9. How do you select teachers for rapid advancement groups?
10. State briefly the purpose of rapid advancement of pupils in your system.

List of Cities Receiving Questionnaire

Akron, Ohio	Nashville, Tennessee
Atlanta, Georgia	Newark, New Jersey
Baltimore, Maryland	New Haven, Connecticut
Birmingham, Alabama	New Orleans, Louisiana
Boston, Massachusetts	New York City, New York
Buffalo, New York	Norfolk, Virginia
Bridgeport, Connecticut	Oakland, California
Camden, New Jersey	Omaha, Nebraska
Chicago, Illinois	Philadelphia, Pennsylvania
Cincinnati, Ohio	Pittsburgh, Pennsylvania
Cleveland, Ohio	Portland, Oregon
Columbus, Ohio	Providence, Rhode Island
Dallas, Texas	Reading, Pennsylvania
Dayton, Ohio	Richmond, Virginia
Denver, Colorado	Rochester, New York
Des Moines, Iowa	Salt Lake City, Utah
Detroit, Michigan	San Francisco, California
Fall River, Massachusetts	Scranton, Pennsylvania
Fort Worth, Texas	Seattle, Washington
Grand Rapids, Michigan	Springfield, Massachusetts
Houston, Texas	St. Louis, Missouri
Indianapolis, Indiana	St. Paul, Minnesota
Jersey City, New Jersey	Syracuse, New York
Kansas City, Missouri	Toledo, Ohio
Los Angeles, California	Trenton, New Jersey
Louisville, Kentucky	Washington, D. C.
Lowell, Massachusetts	Wilmington, Delaware
Milwaukee, Wisconsin	Worcester, Massachusetts
Minneapolis, Minnesota	Yonkers, New York.

Summary of Information Received

The extent of this inquiry and other factors make it unwise to draw definite conclusions from the replies received. However, an analysis of the information received from many of our large American cities justifies the following comments:

1. Acceleration Given Little Consideration.— In general, Superintendents of Schools have given little attention to the development of systematic schemes for accelerating the bright child.

2. Individual School Problem.—The rapid advancement of pupils is a problem left largely to the principals in the individual schools.

3. Few Accelerant Classes.—The per cent of pupils accelerated is so small in many cities that special classes are seldom provided.

4. Specific Planning.—There is rarely a specific plan of acceleration and, therefore, extra promotions are rare and may occur at any place in the child's educational life. In general, however, the choice comes in Grades II to VI.

5. Methods in Use.—In most cities "skipping a grade" is still the most common form of acceleration. There are indications, however, that more systematic plans are being studied. The most common are (1) to do two years' work in one; (2) to do three years' work in two; (3) opportunity classes; (4) four-term schools, and (5) summer schools.

6. Selection of Accelerants.—There is every indication that standard tests, intelligence and achievement, are contributing a share in determining what children shall be granted permission to be advanced a grade.

7. Acceleration Favored.—The advantages of acceleration far outweigh the disadvantages.

8. Teacher.—The choice of a teacher for an accelerated class is most important. She should be a superior teacher, interested, sympathetic, and adaptable.

Findings and Recommendations Relating to the Acceleration of Pupils in the Boston School System

1. Pupils of Superior Ability.—In any large group of pupils, studies showed that from 8 to 10 per cent are of superior ability.

2. Provision.—There should be some recognition of this fact in the Boston school system, by proper provision for this type of pupil.

3. Accelerant Group.—A properly organized accelerant group should have 25 to 30 pupils. In a given school district this presupposes 250 to 300 pupils in each grade.

4. Selection.—The process of selecting these pupils is of vital importance. Among the factors to be considered are (a)

Teacher's judgment, supplemented by scholastic record and objective evidence provided in standard general intelligence and achievement tests; (b) Physical and health condition of the pupil; (c) Personal traits and characteristics; (d) Parental cooperation and approval.

5. Grade III.—These classes should be established sufficiently early so that the pupil will not have formed habits of laziness, inattention, and general lack of interest. In general, it seems to the Committee that Grade III is the proper place to start this work.

6. Continuity.—In order to avoid "gaps" in the child's education there should be continuity of instruction. To accomplish this, the course of study for Grades III, IV and V should be completed in two years, preferably under the guidance of the same teacher.

7. Grade VI.—Grade VI may well provide an opportunity for enrichment and complete assimilation of the work done in the two previous years.

8. Intermediate Years.—In Grades VII, VIII and IX, by means of required subjects and electives, opportunity is provided for pupils of superior ability to do additional work. Under careful guidance a selected group of pupils may complete the work of these three grades in two years. If possible, they should have the same subject teachers for these two years.

9. Senior High School Years.—In Grades X, XI and XII the pupil of superior ability may take additional subjects and thereby work to full capacity and receive an enriched training in the senior high school. In general, it seems inadvisable to endeavor to save a year in these grades.

10. Modification of Standards.—In small school districts where it is impossible to secure a special group of the usual size, the standards of organization may be modified in order that provision may be made for this type of pupil.

11. Supervision.—Finally, it is of the utmost importance in the plans here set forth that there be constant and effective supervision of learning and teaching.

THE TEACHERS COLLEGE OF THE CITY OF BOSTON AND ELIGIBLE LISTS FOR THE APPOINTMENT OF TEACHERS

1. Recommendation for Establishment.—A few years after Horace Mann had begun his great work of placing the professional training of teachers upon a permanent basis, the City of Boston elected its first Superintendent of Schools, Nathan Bishop, Esq. In his first semi-annual report (1851) he says:

“I recommend the establishment of a Normal School as a part of the Boston system of public instruction. It is due to the inhabitants of this city to establish an institution in which such of their daughters as have completed, with distinguished success, the course of studies in the Grammar Schools, may, if they are desirous of teaching, qualify themselves, in the best manner, for this important employment. It is believed that the amount of money required for the support of such a school cannot be expended in any other way which will render so much service to the schools.”

2. Establishment.—Accordingly in 1852 a Normal School was established in the City of Boston by the City Council upon the recommendation of the School Committee. It was opened in the fall of that year with eighty-six students in the Old Adams School-house on Mason Street, the Public Library occupying the first floor.

3. Purpose.—The purpose in establishing the school is made clear in the following quotation from the report of the committee:

“We wish it to be distinctly understood that a school such as we have in view should be one wholly and exclusively instituted for the single object of preparing teachers for our public schools, that it should be a Normal School, and nothing else; that it should be resorted to by those only who may desire to qualify themselves for teaching, and that to all such it should be freely offered, at least as freely as would be consistent with the end proposed by its establishment.”

4. Chronology of Changes.—The changes in this institution may be briefly summarized as follows:

1852.—Normal School established by the City Council on recommendation of the School Committee — open to graduates of grammar schools — high and normal school courses.

1872.— Normal School established as a separate school with a one-year course.

1874.— Chapter 167 of the Acts of 1874 — approved April 15, 1874 — authorized the establishment and maintenance of the Boston Normal School.

1879.— Post-graduate year added, with opportunity for substitute teaching.

1888.— Regular course extended to a year and a half.

1889.— Post-graduate course in kindergarten training introduced.

1892.— Regular course extended to two years; kindergarten course established as a regular course — two years in length.

1913.— Elementary course increased to three years. Kindergarten course established as kindergarten-primary course, three years in length.

1917.— The intermediate certificate was established distinct from the elementary certificate. Students then in the Normal School, on graduation received eight-grade certificates. Hence, the class which was graduated in 1919 was the last class to receive the eight-grade certificate. Pupils who entered in September, 1918, received the six-grade certificate on completion of the course.

1922.— Chapter 273 of the Acts of 1922 — approved April 11, 1922 — authorized the School Committee to grant degrees of Bachelor of Education and Bachelor of Science in Education to graduates of four-year courses in the Boston Normal School. Upon the opening of school in September, 1922, the four-year courses were begun. These degrees were first granted in June, 1925.

1924.— Chapter 142 of the Acts of 1924 — approved March 28, 1924 — changed the name of the Boston Normal School to The Teachers College of the City of Boston.

1926.— Chapter 16 of the Acts of 1926 — approved February 4, 1926 — authorized the School Committee to grant the degree of Master of Education at The Teachers College of the City of Boston. The course leading to the degree of Master of Education was established in September, 1925, and the degree first granted in June, 1926.

Findings and Recommendations

1. Standards.— It is essential that a high standard be maintained in The Teachers College of the City of Boston.

2. Children Entitled to Best Teachers.—The Survey Committee believes that the children of Boston are entitled to the best teachers wherever found.

3. Competition.—To assure the permanent acceptance of the principles set forth above, it is the unanimous opinion of the Survey Committee that all examinations for teaching positions in the service shall be competitive. In no group, kindergarten, elementary, intermediate or high school, should there be preferential or so-called “inside” and “outside” lists. In each group the graduates of The Teachers College of the City of Boston should compete on even terms with those who have pursued equivalent courses elsewhere. Special consideration, if given to local graduates, will only tend to lower the standard of the teaching service in Boston. The success of its graduates in competing with graduates of other similar courses will be objective evidence of the success of The Teachers College in this city. The challenge of competition is the best guarantee of a superior teaching product.

4. Admissions.—The purpose of this institution is not to prepare teachers for positions in other localities but to prepare them for teaching in Boston. Moreover, it is not a municipal college for general collegiate work. It is obvious, therefore, that the number of students admitted should be limited. This number should be determined on no other basis than the probable need, viz., the number of teaching positions to be filled. An open competitive system regularly employed will in time bring about the proper regulation of the number of students admitted. Admissions should be limited to the approximate number of teaching positions that are likely to be filled by graduates of The Teachers College.

5. Length of Courses.—The period of preparation for teachers in the kindergarten-primary and elementary courses should be extended to four years. A four-year course should replace the present course of three years.

6. Candidates for Advanced Degree.—Opportunity should be provided for properly qualified students who have completed four years in college elsewhere and who meet necessary conditions to enter the fifth year of the course leading to the degree of Master of Education (Ed. M.).

7. Essential Safeguards.—The principles set forth above emphasize the fact that the competitive lists of those qualified for teaching positions and also the merit system of promotion within the service are essential safeguards of school standards. As such, in the opinion of the Survey Committee, they are of great value in providing the best teachers and leaders for the education and training of our school children.

SCHOOL DISTRICT CONSOLIDATION

Excess Masters' Assistants and Sub-Masters

1. **Present Status.**—At the present time there appear to be excess masters' assistants and sub-masters in many intermediate and elementary school districts. In general, this is due to the following reasons:

2. **Diminishing Districts.**—In rapidly diminishing districts masters' assistants or sub-masters who have served in those districts for many years are able to give more effective service in those positions than if transferred to a new district and new surroundings.

3. **Change in Rank.**—Some who are now masters' assistants were appointed when other ranks were abolished. In the resulting readjustment it was necessary to appoint them to the rank of master's assistant in order that they should not be demoted to lower rank.

4. **Combined Districts.**—Some sub-masters were retained, with the added rank of sub-master in charge, in districts formed by the combination of two or more districts.

5. **Local Conditions.**—Special local conditions have necessitated the employment of excess sub-masters and masters' assistants.

As a result of these and similar conditions there are at present excess sub-masters and masters' assistants in intermediate and elementary schools.

6. **Recommendations.**—When a vacancy occurs in the rank of master's assistant or sub-master, it should be filled by transfer rather than by new appointment. It is obvious that new appointments will not diminish the excess already existing in both ranks. Likewise, no new appointments should be made to the rank of sub-master in charge and master's assistant in charge. When vacancies occur they should be filled by transfer or appointment from the regular list of sub-masters or masters' assistants.

Combining Small Districts When New Intermediate Schools are Established

1. **General Considerations.**—Whenever intermediate schools are established the pupils are obtained from Grades VII and VIII of the school districts already organized. This is done

even in districts where the school population is either stationary or actually diminishing. In all such cases a careful study should be made of the remaining six-grade districts to determine whether a combination of such districts under fewer masters may not be effected without impairment of administrative efficiency. This does not appear to be the present policy, but with the present and probable future expansion of the intermediate school, this matter should receive serious attention.

2. Small Districts.—At the present time there are some sections of the city in which school districts of approximately 700 or less pupils exist under the direction of a master. Two such districts might well be combined into a larger single district. The surplus master may be transferred as vacancies occur or as new districts are created. The same policy may be adopted where there are excess teachers, particularly in districts of diminishing school population. Substantial economies may thus be made.

Recommendation

1. Map Studies.—The attention of the School Committee is called to the map studies accompanying this report. It will be noted that there is evidence of serious overlapping in the present school districts.

Excess masters, sub-masters, masters' assistants and teachers in some districts are evidence of the effect of a shifting population which has been rapid during the past few years.

2. Redistricting.—In view of these factors and other studies made, it is the opinion of the Survey Committee that the boundary lines of school districts be restudied. The shifting school population and the great variation in the size of districts suggest the advisability of redistricting the entire school system with a view to consolidating districts which are too small and dividing districts which are too large.

SCHOOL BUILDINGS WHICH WILL BECOME OBSOLETE WITHIN THE NEXT TEN YEARS

In order to secure information relating to buildings which might be regarded as unsafe, or unsuitable for school use for other causes, the Survey Committee wrote a letter to the Chairman of the Schoolhouse Commission who submitted a detailed reply. Both the letter and the reply are included in this report.

November 14, 1928.

MR. FRANCIS E. SLATTERY,
Chairman, Board of Schoolhouse Commissioners,
City Hall Annex, Boston, Massachusetts.

DEAR MR. SLATTERY:

At a meeting of the Survey Committee held on Tuesday, November 13, 1928, I was directed to ascertain from you specific information, as follows:

1. What public school buildings in the city, if any, are unsafe.
 2. What public school buildings in the city, if any, not included under Question No. 1, are unsuitable for school use because of rapid deterioration or any other cause.
- If there are any, please state the causes in each case.

Very truly yours,

(Signed) MICHAEL H. SULLIVAN,
Chairman.

CITY OF BOSTON — SCHOOLHOUSE DEPARTMENT
Dec. 12, 1928.

Hon. MICHAEL H. SULLIVAN,
Chairman, Survey Committee, Boston Public Schools,
15 Beacon St., Boston, Mass.

DEAR MR. SULLIVAN:

Regarding certain public schools of Boston, referred to in your letter of November 14th, I would reply as follows:

1. There are no school buildings in the City of Boston used for school purposes which are at this writing structurally unsafe.
2. There are in use in the City of Boston 30 old buildings of third-class construction (wood). These buildings generally speaking are a source of constant expense, wooden build-

ings being naturally more expensive to maintain than brick. They present fire hazards which are vital. Most of them have the latrine system of sanitation, which is highly undesirable. Many of them have antiquated heating systems, which should be replaced. Some of them are three stories in height, with assembly halls on the top floors. It is obvious that these buildings should be superseded as rapidly as funds are available.

The Board has not touched upon the one-story third-class buildings, as they present no special problems.

In addition to the above, the following second-class buildings (brick exterior walls with wooden floors and partitions) merit particular attention:

Hillside School.—70 years old, second-class construction, three stories and basement, six classrooms, with 374 pupils.

This building is in very poor condition, and will be a source of continued expense from year to year, unless it is practically rebuilt shortly, which would mean the expenditure of approximately \$50,000. The reason for the necessity of a practical remodeling is that the walls are out of plumb, and are getting more so as the months go by. They are now held together by turnbuckle bolts, with star iron plates on the exterior, which can be tightened up from time to time to keep the building plumb.

The basement is exceptionally low studded, requiring grown people to duck their heads, and recently the basement timbers had to be braced and to be supported by Lally columns to prevent the building from sagging further. The stone trim on the outside has had to be knocked off in many places, to prevent the dropping of materials, and will eventually have to be replaced, which will be a further source of expense.

Moreover, the sanitariums should be replaced, at a cost of approximately \$10,000. The present sanitariums are of the latrine type and in poor condition. This is a type which is being discarded by this Department as rapidly as possible, because it is obsolete and is considered by the Department and Dr. Ceconi as insanitary.

The Board believes this building should be replaced in the immediate future.

Way Street School.—78 years old, second-class construction, three stories and basement, now vacant.

This building has been vacant since last September, and probably will not be reoccupied, because it is in a mercantile district, and there appears to be no prospect of any need of this particular school for pupils, as the school population is falling off from year to year. This building therefore should be sold.

Pierpont School.— 78 years old, second-class construction, two stories and basement, four rooms with 140 pupils.

This school will undoubtedly be abandoned upon completion of the second unit of the Continuation School, as the school population is dwindling, the same as in the case of the Way Street School.

The Board believes that at that time this school will be placed upon the list of buildings to be sold.

Tyler Street School.— 73 years old, second-class construction, three stories and basement, six rooms, with 250 pupils.

This district is still showing a substantial falling off in school population. In all probability this school will not be needed in a few years. The building itself is starting to crack, the sanitariums are of the latrine type, in very poor condition, are not considered satisfactory by the Schoolhouse Commission, and would be replaced if it appeared that the building was to continue to be used as a school in the future.

The Board believes this building will shortly be placed upon the list of buildings to be sold.

Quincy School.— 81 years old, second-class construction, four stories and basement, twelve regular classrooms, one of which is now vacant, with 348 pupils.

There are also two other rooms, formerly used as classrooms, one of which is now used as a museum, and one as a print shop. There is an assembly hall — seating 350 pupils — on the top floor, which the Board considers is not a desirable location for an assembly hall in a second-class building. There are two fire escapes.

Besides the main building there is an addition, built about 20 years ago, containing machine shop, carpenter shop, master's offices and nurse's room. The machine shop is now vacant.

This building, generally speaking, is in very poor condition. The entire outside of the building needs pointing, and the front wall is out of plumb; and the present view of the Board — to be confirmed later by an expert investigation, however, is that this

front wall should be rebuilt in the summer up to the second floor. Inside a general painting job should be done. To make this building satisfactory for school purposes probably \$25,000 would be required.

As the school population is shifting very rapidly in this general section, resulting in a falling off constantly, this Board believes that the Board of Survey should take up the matter with the School Committee and possibly arrive at some solution, other than extensive repairs, which might result in the vacating of the building entirely, in conjunction with a rearrangement of the Abraham Lincoln School classes.

Eliot School.—90 years old, second-class construction, four stories and basement, fourteen classrooms, one of which is now used as a teachers' room, and one is vacant; 452 pupils.

Latrine system of sanitation, in fair condition but obsolete. Two iron fire escapes. There is an assembly hall on the top floor capable of seating 400. This location is not desirable in a second-class building.

The general condition of the building is poor. Because it is surrounded on three sides by tenement buildings in narrow streets, shutting out the sun, it is necessary to use artificial light in the majority of the rooms when classes are in session. The proximity of these buildings makes an additional fire hazard, which should be considered in connection with the fact of the assembly hall on the top floor, and for other obvious reasons.

The Board makes no recommendation on this building, except to suggest that it be considered in a general rearrangement of schools in this district.

Grant School.—76 years old, second-class construction, two stories and basement, four classrooms, with 106 pupils.

Sanitaries are of latrine type, which is obsolete, and which it is always desirable to replace with modern sanitation. There are two iron fire escapes.

These classrooms are used — one for regular classroom purposes, one for sheet metal shop and two for manual training, uses for which the building was never designed. Because of its poor sanitation, and because the building is ill adapted for the purposes for which it is now being used, there is a constant need of spending money on repairs. The heating system consists of two furnaces which, because of their condition, will probably have to be replaced within a few years.

Because the Sharp School is better built, with new heating, new sanitation, and in good condition generally, with good light, the Board recommends that the Grant School be abandoned instead of the Sharp School, which is now on the list of buildings to be sold, or in addition thereto.

Sharp School.— This building is now on the list of buildings to be sold, but the recommendations made on the Grant School contain the Board's views on the Sharp.

Pormort School.— This building is to be torn down to make way for a new unit in connection with the Michelangelo group.

Elizabeth Peabody School.— The Board merely makes the observation that this building is used only for special classes, and because of the trend of school population probably will not be used for school purposes within ten years.

Baldwin School.— Has been vacant about fifteen years, and should be on the list of buildings to be sold. The building itself is in dangerous condition and unsafe.

Somerset Street School.— Is on the list of buildings to be sold.

William Eustis School.— 67 years old, second-class construction, three stories and basement, six rooms (two on each floor); room 2 on top floor now vacant; no assembly hall. Two iron fire escapes. 190 pupils.

In very poor condition. The plastering is constantly falling down because of unusual vibration, due probably to the fact that the school is on made land, and surrounded by streets on which there is constant heavy trucking. The stairs and balustrades are constantly in need of repairs, due also to this vibration.

Sanitation is of old latrine type, with resulting odors, which cannot be eradicated. The heating is by furnaces, old but in fair condition, which should be replaced within the next ten years, as the cost of heating is excessive and the resulting heat not sufficient at times for the building.

The Board recommends that the Board of Survey give serious study to a possible replacement of this building.

In addition to the second-class buildings noted above, there are 26 second-class buildings, mentioned in a list sent to the

School Committee under date of October 20, 1926, entitled "Buildings which it may be advisable to abandon within ten years," so old as to compel constant close supervision for danger points and frequent substantial repairs. Some of these buildings have assembly halls and classrooms on the top floor, and in some cases on the fourth floor.

For these and many other reasons, such as excessive cost of upkeep and better safety of the pupils, the condition of the sanitation and heating apparatus, the Board is of the opinion that it would be advisable to replace these buildings within ten years.

Trusting this information will be of value to you, I am,

Very truly yours,

(Signed) F. E. SLATTERY,
Chairman.

Age of School Buildings in Boston

1. General Situation.— Practically all large school systems use buildings of varying degrees of fitness. Some are in complete accord with modern standards while others are of an older type of construction, but are either too good to be discarded or too much needed to be abandoned.

2. Building Development.— Four buildings in present use are over ninety years old and nearly one-sixth of the total of 360 are over sixty years old. The 360 represented are all separate building projects, but a few are additions to previously existing schools. In spite of the practical cessation of schoolhouse construction during the World War, the ten-year period, 1909 to 1918, is not out of line with its building projects. The 1919-1928 jump is due to the unusual growth of the high school attendance and the development of an intermediate school plan for the city.

3. Periodic Survey.— A well-built school building may be good indefinitely. There are many old buildings now in use which were originally well constructed. They have been remodelled from time to time and are at present in such condition that their abandonment, from the standpoint of age alone, would be wholly unjustified. However, a periodic survey of all buildings should be made in order to secure information necessary to the proper understanding of the problems involved in the formation of a building program.

CHART 1.
DATE OF CONSTRUCTION
OF BOSTON SCHOOL BUILDINGS.
(Survey Committee, Boston Public Schools, 1928)

1800-1838	4 buildings
1839-1848	13 buildings
1849-1858	20 buildings
1859-1868	21 buildings
1869-1878	40 buildings
1879-1888	23 buildings
1889-1898	53 buildings
1899-1908	56 buildings
1909-1918	58 buildings
1919-1928	72 buildings

Chart 1 presents a graphic representation of the date of construction of Boston's present school buildings by ten year periods from 1800 to 1928. These are not all separate buildings, but separate building projects. A few buildings were acquired by purchase instead of construction and in such cases the date of purchase is used.

[Table with Chart 1]
**Dates of Construction of Boston Schools, Owned by the
School Committee, 1928**

Year	Number Buildings	Year	Number Buildings	Year	Number Buildings
1800.....	1	1869.....	4	1899.....	5
1823.....	1	1870.....	8	1900.....	*3
1824.....	*1	1871.....	6	1901.....	11
1838.....	1	1872.....	5	1902.....	3
	4	1873.....	2	1903.....	3
1840.....	1	1874.....	6	1904.....	9
1842.....	1	1875.....	3	1905.....	6
1843.....	1	1876.....	3	1906.....	6
1845.....	2	1877.....	3	1907.....	7
1846.....	1		40	1908.....	3
1847.....	6	1879.....	1		56
1848.....	1	1880.....	5	1909.....	4
	13	1882.....	3	1910.....	9
1849.....	2	1883.....	2	1911.....	7
1850.....	1	1884.....	5	1912.....	8
1851.....	1	1885.....	2	1913.....	10
1852.....	2	1886.....	2	1914.....	9
1855.....	4	1887.....	3	1915.....	2
1856.....	5		23	1916.....	1
1857.....	4	1889.....	2	1917.....	5
1858.....	1	1890.....	1	1918.....	3
	20	1891.....	4		58
1859.....	4	1892.....	9	1919.....	5
1860.....	1	1893.....	3	1920.....	2
1861.....	4	1894.....	3	1921.....	3
1862.....	2	1895.....	11	1922.....	5
1863.....	1	1896.....	8	1923.....	†8
1865.....	1	1897.....	6	1924.....	11
1866.....	1	1898.....	6	1925.....	13
1867.....	3		53	1926.....	11
1868.....	4			1927.....	6
	21			1928.....	8
					72

* Building of 1824 and one of 1900 not used for school purposes.
† School Administration Building, purchased, is one of 1923 items.
See also note under Chart 1.

A SYSTEM OF NUMBERING BOSTON SCHOOL BUILDINGS

1. Present Difficulties.— This method of cataloguing school buildings has been suggested because of practical difficulties connected with previous usages:

a. Delay in Naming.— New construction is often started previous to any decision on the official name.

b. Identification.— Except in the case of district high schools, the name of the building offers neither a clue to its location nor to its relationship to other school buildings.

c. Changes.— A change of status (*e. g.* from high to intermediate) has resulted in a change of name with no clear reference to its earlier history.

2. Advantages of Numbering.— A numbering system for School Committee records will correct many of these difficulties:

a. Permanence.— With the proposal to construct any new school building a number can be immediately assigned to be used from the time of original appropriations to its discontinuance for school purposes.

b. Building Record.— Its complete history (appropriations, final acceptance, name, school use, additions, changes in name or use) can be recorded under this permanently assigned number.

c. Location.— The number of the building can give some clue to its location and its relationship to other buildings in the system.

3. Number System.— With the number of school buildings slightly over 300, a numbering system of three figures promises to be adequate for a long period in Boston school progress.

The first figure gives a clue to the section of the city in which the building is located.

0. Administration buildings and central schools.

1. East Boston and Charlestown.

2. North End, West End, South End, and City Proper.

3. South Boston.

4. Roxbury.

5. Brighton.

6. Jamaica Plain and Roslindale.

7. West Roxbury and Hyde Park.

8. Dorchester (intown end).

9. Dorchester (outer end).

For the district schools the last two figures give a clue to the status of the building (in most cases).

- 01 — 03.....High school buildings.
 04 — 07.....Intermediate school buildings.
 10, 20, 30, etc.....Principal building of elementary districts.
 11, 12, 13 — 21, 22Subordinate building of elementary districts.

In special cases this general scheme is not followed. The Girls High Colony is not a permanent probability as a high school building; the present Brighton High School is a prospective intermediate building, and some segregated districts (*c. g.* Dillaway and Dudley) are grouped together.

It is understood that, in accord with the traditions of the Boston school system, a legal name should be given to every school building. However, the number assigned in accord with the proposed system should be added for the reasons given.

Catalog Number	Present Name	Accepted
001.....	Teachers College.....	1907
002.....	Common Building, Teachers College-Girls' Latin Gymnasium.....	1907
010.....	Public Latin.....	1922
020.....	Girls' Latin.....	1907
021.....	Patrick A. Collins.....	1907
030.....	English High.....	1880-1913
040.....	Girls' High.....	1870-1910-1912
050.....	Mechanic Arts High.....	1893-1908
054.....	Boston Trade.....	1917
057.....	Trade School for Girls.....	1923
060.....	High School of Commerce.....	1915
070.....	Boston Clerical.....	1891-1912
080.....	High School of Practical Arts.....	1913-1914-1917
090.....	Continuation School (Boys).....	1928
092.....	Continuation School (Girls).....	1929
098.....	Supply Room (440 Brookline Avenue).....	1929
099.....	Administration Building (15 Beacon Street)...	1923
101.....	East Boston High.....	1926
102.....	Charlestown High.....	1907

Catalog Number	Present Name	Accepted
103.....	Spencer Memorial Annex.....	1926
105.....	Donald McKay (Intermediate).....	1926
107.....	Joseph H. Barnes (Intermediate).....	1901
110.....	Blackinton.....	1892-1910
111.....	Curtis Guild.....	1921
115.....	John Cheverus.....	1909
116.....	Paul Jones.....	1904
120.....	Chapman.....	1901
121.....	Tappan.....	1873
125.....	Emerson.....	1865
126.....	Noble.....	1874
127.....	Noble Annex.....	1898
128.....	Philip H. Sheridan.....	1914
130.....	Samuel Adams.....	1910-1913
131.....	Commodore Barry.....	1856
132.....	Plummer.....	1891-1904-1908
133.....	Daniel Webster.....	1922
140.....	Theodore Lyman.....	1870
141.....	Austin.....	1849
142.....	Cudworth.....	1894
143.....	Dante Alighieri.....	1924
150.....	Ulysses S. Grant.....	1912
151.....	James Otis.....	1905-1917
170.....	Harvard.....	1871
171.....	Samuel Dexter.....	1800-1872
172.....	Nahum Chapin.....	1847
173.....	Frothingham.....	1874
174.....	William H. Kent.....	1895
175.....	Frothingham Annex.....	1898
176.....	Jacob Foss (leased to American Legion).....	1909
180.....	Prescott.....	1857
181.....	Polk Street (part of James A. McDonald).....	1876
182.....	Abram E. Cutter.....	1886
183.....	Prescott Annex.....	1896
184.....	James A. McDonald.....	1911
190.....	Warren.....	1867
191.....	Thomas Starr King.....	1845
192.....	Charles E. Daniels.....	1847
193.....	Bunker Hill.....	1866
194.....	B. F. Tweed.....	1892
195.....	Copley.....	1901
196.....	Oliver Holden.....	1926
205.....	Michelangelo (Intermediate).....	1919-1921
207.....	Washington (Intermediate).....	1904-1925-1928
210.....	Bowdoin.....	1896
211.....	Sharp.....	1824
212.....	Winchell.....	1885

Catalog Number	Present Name	Accepted
220.....	Wells.....	1868-1914
221.....	Elizabeth Peabody.....	1861
222.....	Mayhew.....	1897
223.....	William Blackstone.....	1916
230.....	Wendell Phillips.....	1862
231.....	Grant.....	1852
232.....	Peter Faneuil.....	1910
240.....	Eliot.....	1838
241.....	Pornort.....	1855
242.....	Freeman.....	1868
243.....	Christopher Columbus.....	1904
245.....	Hancock.....	1847
246.....	Cushman.....	1867
247.....	Paul Revere.....	1898
248.....	Hancock Annex.....	1903
250.....	Prince.....	1875
251.....	Charles C. Perkins.....	1891
252.....	William McKinley.....	1923
253.....	Martin Milmore.....	1929
254.....	Horace Mann (Old) (on sale).....	1890
260.....	Abraham Lincoln.....	1911
261.....	Pierpont.....	1850
262.....	Skinner.....	1870
265.....	Quincy.....	1847-1907
266.....	Tyler Street.....	1855
267.....	Andrews.....	1896-1913
270.....	Rice.....	1869
271.....	George Bancroft.....	1870
275.....	Franklin.....	1859
276.....	Wait.....	1869
277.....	John J. Williams.....	1913
280.....	Everett.....	1860-1914
281.....	Louisa May Alcott.....	1845
282.....	Girls High Colony, 620 Massachusetts Avenue.....	1910
285.....	Dwight.....	1857
286.....	Frances E. Willard.....	1851
287.....	Joshua Bates.....	1884
301.....	South Boston High.....	1901-1926
310.....	Lawrence.....	1856
311.....	Parkman (Training School for Teachers of Mechanic Arts).....	1842
312.....	Drake.....	1869
313.....	Samuel G. Howe.....	1874
320.....	Bigelow.....	1901
321.....	Hawes Hall.....	1823-1859
322.....	Simonds.....	1840
325.....	Norcross.....	1868
326.....	Cyrus Alger.....	1880
327.....	George Frisbie Hoar.....	1914

Catalog Number	Present Name	Accepted
330.....	Shurtleff.....	1869
331.....	Clinch.....	1871
332.....	Michael J. Perkins.....	1926
340.....	John A. Andrew.....	1876
341.....	John Boyle O'Reilly.....	1905
350.....	Thomas N. Hart.....	1889
351.....	Capen.....	1871
352.....	Benjamin Dean.....	1899
360.....	Frederic W. Lincoln.....	1859
361.....	Choate Burnham.....	1894
365.....	Gaston.....	1872
366.....	Joseph Tuckerman.....	1906
370.....	Oliver Hazard Perry.....	1904
371.....	Benjamin Pope.....	1883
401.....	Memorial High (Boys).....	1928
402.....	Memorial High (Girls).....	1926
404.....	Lewis (Intermediate).....	1912-1926
407.....	Theodore Roosevelt (Intermediate).....	1923-1924
410.....	Sherwin.....	1870
411.....	Asa Gray.....	1877
412.....	Ira Allen.....	1901
413.....	George T. Angell.....	1912-1925
416.....	Hyde.....	1884
417.....	Lafayette.....	1911
420.....	Dillaway.....	1882
421.....	Louis Prang.....	1846
422.....	Old Thornton Street.....	1847
423.....	William Cullen Bryant.....	1861
424.....	Abby W. May.....	1893
426.....	Dudley.....	1874
427.....	William Bacon.....	1897
428.....	Nathan Hale.....	1909
430.....	Dearborn.....	1906-1917
431.....	Mt. Pleasant Avenue.....	1847
432.....	Aaron Davis.....	1870
433.....	Albert Palmer.....	1895
434.....	Dearborn Annex.....	1921
436.....	Winthrop Street.....	1857
438.....	Horace Mann.....	1929
440.....	Hugh O'Brien.....	1887
441.....	William Eustis.....	1861
442.....	Samuel W. Mason.....	1905-1917
443.....	Ralph Waldo Emerson.....	1924
450.....	Julia Ward Howe.....	1868-1924
451.....	Julia Ward Howe Annex.....	1901
452.....	Sarah J. Baker.....	1906
455.....	Henry L. Higginson.....	1922

Catalog Number	Present Name	Accepted
456.....	W. L. P. Boardman.....	1900
457.....	Morrison House.....	1925
460.....	Jefferson.....	1904
461.....	Comins.....	1856
462.....	Cottage Place.....	1859
463.....	Thomas Dwight.....	1867
464.....	Charles Bulfinch.....	1911
470.....	Martin.....	1885
471.....	Farragut.....	1904
489.....	William Lloyd Garrison.....	1910-1918-1929
481.....	Williams.....	1892
491.....	George Putnam.....	1880
492.....	Dixwell Street.....	1877
493.....	Ellis Mendell.....	1904
501.....	Brighton High (New).....	1895-1913
504.....	Brighton High (Old).....	
510.....	Bennett.....	1874-1925
511.....	Hobart Street.....	1884-1907
512.....	Bennett Branch.....	1886
513.....	Oak Square.....	1894-1923
514.....	Mary L. Broek.....	1897
515.....	Winship.....	1901-1924
516.....	Mary Lyon.....	1914
517.....	Alexander Hamilton.....	1924-1927
518.....	James A. Garfield.....	1925
519.....	Harriet A. Baldwin.....	1927
530.....	Thomas Gardner.....	1906-1924
531.....	Harvard.....	1848
532.....	Auburn.....	1856
533.....	Thomas Gardner Annex.....	1873
534.....	William Wirt Warren.....	1892
535.....	James J. Storrow.....	1926
540.....	Washington Allston.....	1879
541.....	Washington Allston Annex.....	1889-1902
542.....	Frederic A. Whitney.....	1899
543.....	Andrew Jackson.....	1924
601.....	Jamaica Plain High.....	1898-1926
605.....	Washington Irving (Intermediate).....	1925-1927
610.....	Lowell.....	1874
611.....	Lucretia Crocker.....	1884
612.....	Wyman.....	1892-1910
613.....	Lowell Annex.....	1896
620.....	Agassiz.....	1893
621.....	Old Agassiz.....	1849
625.....	Bowditch.....	1892-1899
626.....	Hillside.....	1858

Catalog Number	Present Name	Accepted
627.....	Chestnut Avenue.....	1872
628.....	Margaret Fuller.....	1892
630.....	Francis Parkman.....	1899-1904-1908
631.....	Washington Street (Forest Hills).....	1870
632.....	Edwin P. Seaver.....	1924
633.....	Henry Abrahams.....	1928
640.....	Charles Sumner.....	1877
641.....	Florence Street.....	1862
642.....	Stephen M. Weld.....	1895
643.....	John D. Philbrick.....	1913
650.....	Longfellow.....	1897-1909
651.....	Phineas Bates (Old).....	1896
652.....	Mozart.....	1913
653.....	Theodore Parker.....	1924
654.....	Phineas Bates (New).....	1929
701.....	Hyde Park High.....	1928
705.....	William Barton Rogers (Intermediate).....	1902-1920
710.....	Robert Gould Shaw.....	1919-1927
711.....	Old Baker Street.....	1855
712.....	Germantown.....	1863-1912
713.....	Richard Olney.....	1892
714.....	Henry Vane.....	1899-1926
715.....	Beethoven.....	1925
716.....	Randall G. Morris.....	1927
717.....	Patrick F. Lyndon.....	1928
730.....	Elihu Greenwood.....	1887
731.....	Fairmount.....	1871
732.....	Amos Webster.....	1895
733.....	Weld.....	1895
734.....	Trescott.....	1901-1910
740.....	Henry Grew.....	1871
741.....	Damon.....	1871
742.....	Hemenway.....	1895
743.....	William Ellery Channing.....	1928
804.....	Oliver Wendell Holmes (Intermediate).....	1905
807.....	Grover Cleveland (Intermediate).....	1925-1928
810.....	William E. Russell.....	1903
811.....	Harbor View Street.....	1883
812.....	Roger Clap.....	1896
820.....	Edward Everett.....	1909
821.....	Old Edward Everett.....	1855
822.....	Richard C. Humphreys.....	1876
823.....	Savin Hill.....	1884-1902
824.....	John Lothrop Motley.....	1911-1923
830.....	Mather.....	1905
831.....	Old Mather.....	1872

Catalog Number	Present Name	Accepted
832.....	Quincy Street.....	1882
833.....	Lyceum Hall.....	1892
834.....	Benjamin Cushing.....	1897
840.....	John Winthrop.....	1911
841.....	Howard Avenue.....	1882
842.....	Howard Avenue Annex.....	1896
843.....	Nathaniel Hawthorne.....	1906
844.....	Benedict Fenwick.....	1912
850.....	Phillips Brooks.....	1900
851.....	Hull.....	1875
852.....	Quincy E. Dickerman.....	1915
860.....	Christopher Gibson.....	1895
861.....	Atherton.....	1872
870.....	John Marshall.....	1903
871.....	Florence Nightingale.....	1914
872.....	Lucy Stone.....	1923
873.....	Champlain.....	1925
880.....	William E. Endicott.....	1906
881.....	Glenway.....	1880
882.....	Glenway Annex.....	1898
883.....	Sarah Greenwood.....	1919
886.....	Old Gibson.....	1857
901.....	Dorchester High for Boys.....	1925
902.....	Dorchester High for Girls.....	1901-1910
905.....	Frank V. Thomspon (Intermediate).....	1922-1925
907.....	Solomon Lewenberg (Intermediate).....	
910.....	Robert Treat Paine.....	1925
911.....	Audubon.....	1919
920.....	Emily A. Fifield.....	1918
921.....	Robert Swan.....	1875-1895
930.....	Henry L. Pierce.....	1891
931.....	Helen F. Burgess.....	1880
932.....	John Greenleaf Whittier.....	1905
933.....	Thomas Francis Leen.....	1923
940.....	Mary Hemenway.....	1897
941.....	Dorchester Avenue.....	1852
942.....	Harris.....	1861
943.....	Elbridge Smith.....	1870
944.....	Little Em'ly.....	1895
945.....	Everett Street.....	1914
946.....	Rochambeau.....	1918
950.....	Minot.....	1887
951.....	Thomas J. Kenny.....	1927
960.....	Gilbert Stuart.....	1896
961.....	Stoughton.....	1856
962.....	Ellen H. Richards.....	1913

Catalog Number	Present Name	Accepted
970.....	Roger Wolcott.....	1901
971.....	William Brewster.....	1895
972.....	William Brewster Annex.....	1898
973.....	William Bradford.....	1912
974.....	Pauline Agassiz Shaw.....	1919-1920
980.....	Edmund P. Tileston.....	1911-1914
981.....	Martha A. Baker.....	1913
982.....	Lowell Mason.....	1922
983.....	Charles Logue.....	1924-1925

A STUDY OF THE GROWTH AND SHIFTING OF POPULATION AS RELATED TO A BUILDING PROGRAM

1. Three Studies.—The Survey Committee presents three studies which served as bases for its recommendations with relation to the preparation of a building program.

a. First Study.—The first of these presents a summary of school population trends by sections of the city for the years 1919–1928.

Following the chart are significant statements which the data of the chart reveal.

b. Second Study.—The second study is a map on which is included the gains and losses in intermediate and elementary school districts for the years 1925–1928. The black figures show the per cent of change during this period. The plus sign (+) represents gain. The minus sign (—) represents loss.

Attention is called to the variations within a given section of the city. For example, a section as a whole may show a loss, but a portion of the section may be practically stationary or show a slight gain.

In general, however, the population of the school follows the population trend of the district.

c. Third Study.—The third study is a comprehensive tabular arrangement of changes in school population by schools and districts for the ten-year period 1919–1928. It shows the changes that have taken place not only in the sections of the city, but in the individual school districts within the sections.

2. Value of Study.—Such a study over a prolonged period of time is essential in determining the proper location of new school buildings.

SCHOOL POPULATION OF BOSTON, CHANGES AND TRENDS, 1919-1928

SUMMARY BY SECTIONS OF THE CITY

INCREASE and DECREASE in the School Population of Elementary School Districts

(Decreases in boldface figures)

Note: Data taken from Minutes of School Committee

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
East Boston.....	336	218	371	204	216	302	84	228	217	70
Charlestown.....	39	130	163	9	159	76	24	30	169	212
North End.....	150	273	361	41	43	283	180	123	205	226
West End.....	32	115	179	49	237	341	474	185	215	371
City Proper.....	90	94	77	67	64	111	118	327	128	293
South End.....	117	119	141	179	249	13	152	158	163	168
South Boston.....	88	121	356	330	124	98	56	134	7	193
Roxbury.....	243	286	523	243	427	609	36	169	16	237
Brighton.....	247	8	46	130	205	83	230	359	129	36
West Roxbury.....	155	97	227	41	287	393	476	447	599	692
Dorchester.....	571	181	541	153	379	671	642	993	273	511
Hyde Park.....	31	139	112	209	50	44	56	188	101	90

Observations on Data Relating to Changes and Trends in the School Population of Boston.

1. **Trend Toward Suburbs.**—The trend of school population is away from the city proper toward the suburbs.
2. **Increases.**—There appears to be an annual increase in the school population in the following sections: East Boston, Brighton, West Roxbury, Dorchester and Hyde Park.
3. **Decreases.**—There is an annual decrease in the following sections: Charlestown, North End, West End, City Proper, South End, South Boston and Roxbury.
4. **Greatest Increases.**—The greatest cumulative increase appear to be in West Roxbury and Dorchester.
5. **Greatest Decreases.**—The greatest cumulative decreases appear to be in the North End, West End and City Proper.
6. **Marked Change.**—In the last four (4) years, the greatest change from an increase to a decrease appears to be in Roxbury which has dropped from an increase of 609 in 1924 to a decrease of 237 in 1928.

TEN YEAR CHANGES IN SCHOOL POPULATION BY SCHOOLS AND DISTRICTS, 1919-1928
NUMBER BELONGING OCTOBER 1 OF EACH YEAR AS GIVEN IN MINUTES OF BOSTON SCHOOL COMMITTEE

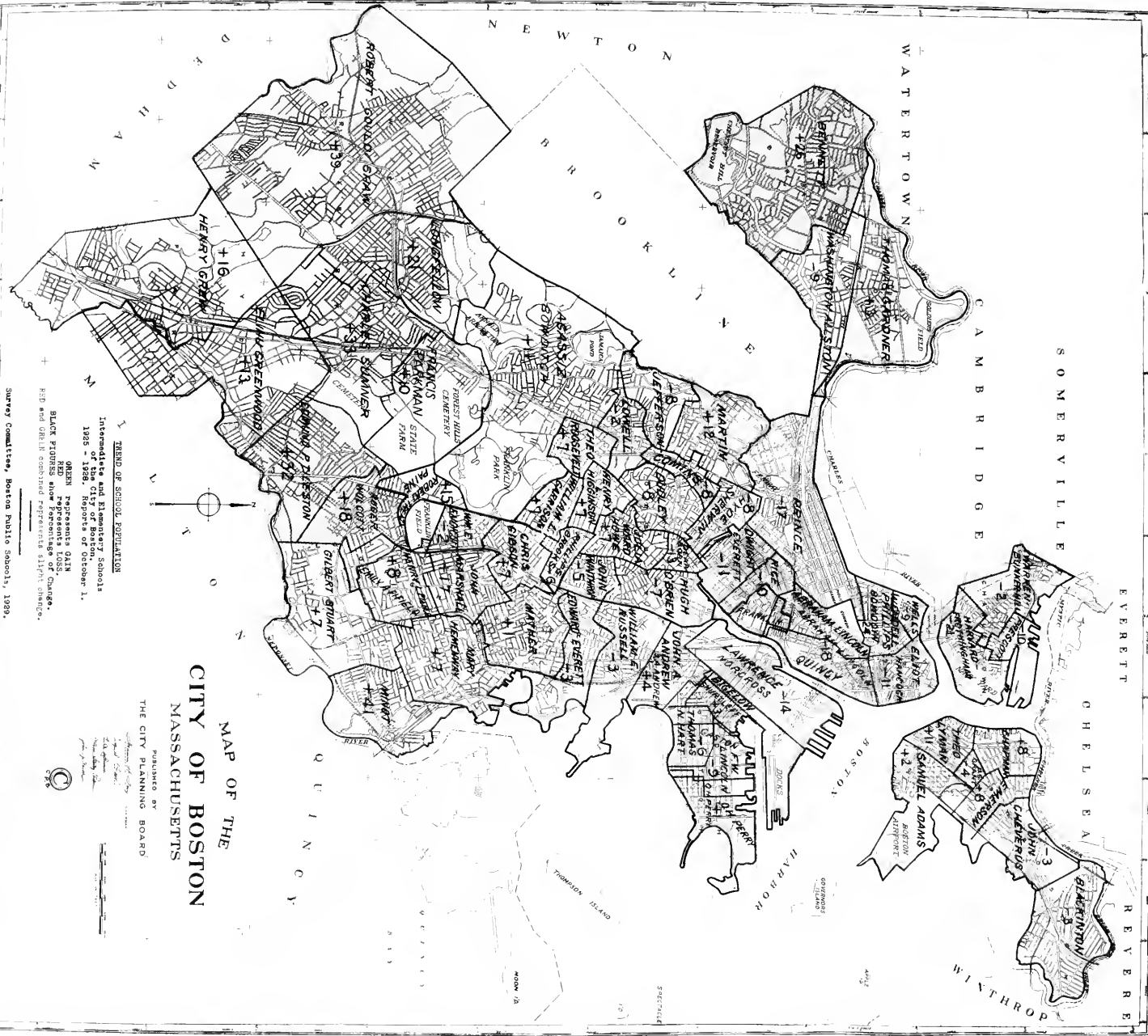
Membership by Schools and Districts, 1919-1928

General Summary

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
The Teachers College.....	239	260	305	414	496	625	690	744	795	810
High and Latin.....	16,779	17,381	20,217	21,979	21,889	22,467	22,447	22,465	23,423	24,907
Day Elementary Schools:										
Grade IX, Intermediate Class.....	1,159	1,409	1,649	1,996	2,176	2,396	2,911	3,415	3,867	4,092
Grades I-VIII, included.....	84,389	85,471	87,824	88,846	90,545	91,173	90,909	91,387	91,264	90,437
Kindergartens.....	7,362	7,374	7,878	7,948	7,821	8,308	8,577	8,684	8,863	9,024
Specials.....	945	967	1,374	1,403	1,440	1,533	1,697	1,777	1,808	1,940
Totals.....	110,873	112,862	119,247	122,586	124,367	126,502	127,231	128,472	130,020	131,210

Summary by Sections

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
The Teachers College.....	239	260	305	414	496	625	690	744	795	810
High and Latin.....	16,779	17,381	20,217	21,979	21,889	22,467	22,447	22,465	23,423	24,907
Elementary Schools:										
East Boston.....	10,233	10,451	10,822	11,026	11,242	11,544	11,628	11,856	12,073	12,003
Charlestown.....	3,464	3,594	3,757	3,766	3,925	4,001	3,977	3,947	3,778	3,566
North End.....	5,068	5,341	5,702	5,743	5,700	5,417	5,237	5,114	4,909	4,683
West End.....	5,981	5,866	6,045	6,094	5,857	5,516	5,042	4,857	4,642	4,271
City Proper.....	4,266	4,360	4,437	4,370	4,306	4,195	4,077	3,750	3,622	3,329
South End.....	3,554	3,673	3,814	3,993	4,242	4,229	4,077	3,919	3,816	3,648
South Boston.....	8,367	8,488	8,844	9,174	9,298	9,200	9,144	9,010	9,003	8,810
Roxbury.....	14,453	14,739	15,262	15,505	15,932	16,541	16,577	16,417	16,433	16,196
Brighton.....	4,487	4,479	4,525	4,655	4,860	4,943	5,173	5,323	5,652	5,688
West Roxbury.....	7,705	7,608	7,835	7,794	8,081	8,474	8,950	9,397	9,996	10,688
Dorchester.....	23,284	23,468	24,009	24,162	24,541	25,215	25,857	26,850	27,123	27,634
Hyde Park.....	2,048	2,187	2,299	2,508	2,558	2,602	2,658	2,846	2,947	3,037
Specials.....	945	967	1,374	1,403	1,440	1,533	1,697	1,777	1,808	1,940
Totals.....	110,873	112,862	119,247	122,586	124,367	126,502	127,231	128,472	130,020	131,210



MAP OF THE
CITY OF BOSTON
MASSACHUSETTS

FINANCED BY
THE CITY PLANNING BOARD

TREND OF SCHOOL POPULATION
Intermediate and Elementary Schools
of the City of Boston,
1925 - 1928. Reports of October 1.

GREEN represents GAIN
BLACK PINNED represents LOSS
RED and ORANGE combined represents slight change.

Survey Committee, Boston Public Schools, 1929.

TEN YEAR CHANGES IN SCHOOL POPULATION BY SCHOOLS AND DISTRICTS, 1919-1928
NUMBER BELONGING OCTOBER 1 OF EACH YEAR AS GIVEN IN MINUTES OF BOSTON SCHOOL COMMITTEE

Statement by Schools and Districts

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
A — HIGH AND LATIN SCHOOLS.										
Public Latin	1,025	1,069	1,268	1,430	1,347	1,396	1,461	1,535	1,792	2,007
Girls' Latin	791	820	933	910	906	941	976	1,004	1,032	1,088
Brighton High	582	589	761	842	848	931	858	892	992	1,093
Charlestown High	539	519	695	758	764	867	947	975	999	973
Dorchester High	2,034	2,066	2,311	2,301	2,258	2,532				
Dorchester High for Boys							1,386	1,685	1,800	1,828
Dorchester High for Girls							1,692	1,886	1,986	1,864
East Boston High	751	810	1,049	1,204	1,159	1,154	1,069	1,006	1,104	1,251
English High	2,143	2,173	2,575	2,892	3,095	3,261	2,942	2,711	2,673	2,471
Girls' High	2,003	2,077	2,142	2,489	2,588	2,569	2,429	2,154	2,035	2,079
High School of Commerce	1,435	1,508	1,718	1,871	1,626	1,419	1,353	1,245	1,314	1,053
High School of Practical Arts	498	605	855	1,025	1,057	1,036	966	781	810	831
Hyde Park High	793	807	936	1,022	1,022	1,013	1,058	1,051	1,038	1,229
Mechanic Arts High	1,081	1,297	1,492	1,541	1,612	1,660	1,636	1,638	1,586	1,538
Roxbury High	1,310	1,315	1,522	1,600	1,565	1,645				
Memorial High (Girls)							1,641	1,812	2,015	2,474
Memorial High (Boys)										872
South Boston High	882	835	945	934	841	871	866	905	968	994
West Roxbury High (Jamaica Plain) ..	912	891	1,015	1,160	1,201	1,172	1,167	1,185	1,279	1,262
Totals	16,779	17,381	20,217	21,979	21,889	22,467	22,447	22,465	23,423	24,907

Statement by Schools and Districts — Continued

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
B — ELEMENTARY SCHOOL DISTRICTS.										
East Boston:										
Blackinton-John Cheverus.....	1,559	1,588	1,618	1,684	1,741	1,799	1,779	1,786	{ 1,933 2,894	1,873 2,844
Chapman.....	1,225	1,237	1,293	1,280	1,294	1,398	1,455	1,248	1,221	1,233
Emerson.....	1,534	1,520	1,565	1,589	1,633	1,615	1,658	1,296	1,356	1,393
Donald McKay.....								950	1,027	1,079
Samuel Adams.....	2,801	2,934	3,059	3,095	3,217	3,280	3,312	2,744	2,729	2,669
Joseph H. Barnes.....								1,105	1,129	1,109
Theodore Lyman.....	1,568	1,651	1,719	1,740	1,701	1,727	1,685	1,354	1,466	1,497
Ulysses S. Grant.....	1,546	1,521	1,568	1,638	1,656	1,725	1,739	1,373	1,318	1,306
Charlestown:										
Harvard-Frothingham.....	1,161	1,156	1,268	1,280	1,363	1,388	1,354	1,344	1,230	1,074
Prescott.....	618	621	730	770	811	817	832	796	783	749
Warren-Bunker Hill.....	3 663 4 1,022	3 719 41,098	1,739	1,716	1,751	1,796	1,791	1,807	1,765	1,743
North End:										
Elliot.....	2,497	2,755	2,897	3,013	3,054	2,910	2,848	2,294	2,107	2,055
Hancock.....	2,571	2,586	2,805	2,730	2,646	2,507	2,389	1,972	1,849	1,715
Michelangelo.....								848	953	913
West End:										
Bowdoin.....	973	844	851	845	785	750	1,141	1,035	900	843
Washington.....	1,749	1,830	1,829	1,850	1,878	1,773	1,047	1,044	1,056	947
Wells.....	1,871	1,835	1,949	1,935	1,815	1,688	1,723	1,722	1,695	1,596
Wendell Phillips.....	1,388	1,357	1,416	1,464	1,379	1,305	1,131	1,056	991	885

City Proper:

Abraham Lincoln.....	2,052	2,151	2,242	2,187	2,034	1,888	1,585	1,486	1,454	1,305
Prince.....	1,031	996	974	991	1,155	1,188	1,252	1,164	1,124	1,044
Quincy.....	1,183	1,213	1,221	1,192	1,117	1,119	1,240	1,100	1,044	980

South End:

Dwight.....	817	818	857	925	993	961	945	877	874	820
Everett.....	738	821	830	953	1,033	1,009	970	945	941	879
Franklin.....	1,081	1,095	1,115	1,098	1,137	1,119	1,049	1,023	1,002	983
Rice.....	918	939	1,012	1,017	1,079	1,140	1,113	1,074	999	966

South Boston:

Bigelow.....	913	929	997	1,030	1,052	1,066	1,081	1,146	1,156	1,118
Frederic W. Lincoln.....	754	781	775	787	755	740	708	696	691	646
Gaston.....	1,032	1,067	1,099	1,126	1,137	1,089	1,088	1,038	1,021	1,090
John A. Andrew.....	999	1,062	1,090	1,072	1,201	1,151	1,162	1,203	1,191	1,211
Lawrence.....	865	852	905	910	889	887	861	831	815	762
Norcross.....	1,012	1,033	1,081	1,194	1,198	1,242	1,225	1,165	1,121	1,039
Oliver H. Perry.....	837	836	830	855	807	764	775	781	790	783
Shurtleff.....	850	875	901	1,032	1,123	1,175	1,211	1,165	1,271	1,242
Thomas N. Hart.....	1,105	1,053	1,166	1,168	1,136	1,086	1,033	985	947	919

Roxbury:

Dearborn.....	1,813	1,840	1,958	2,045	2,035	2,022	1,914	1,842	1,797	1,677
Dillaway.....	1,220	1,239	1,256	1,269	1,316	1,336	1,329	1,243	1,236	1,207
Dudley.....	1,149	1,196	1,196	1,248	1,295	1,353	1,280	1,273	1,190	1,194
George Putnam.....	1,329	1,406	1,499	1,471	.....	.....	.....	.....	.....	.....
Hugh O'Brien.....	1,572	1,638	1,715	1,702	1,709	1,945	1,969	1,970	1,957	1,840
Henry L. Higginson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hyde.....	812	780	787	764	765	802	856	765	800	748
Jefferson.....	1,406	1,417	1,465	1,436	.....	.....	.....	1,155	1,237	1,259
Jefferson-Comins.....	.....	.....	.....	.....	1,461	1,516	1,600	1,505	1,503	1,468

¹ Blackinton District,
³ Bunker Hill District.

² John Cheverus District,
⁴ Warren District.

Statement by Schools and Districts — Continued

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
B — Elementary Schools —										
(Continued)										
Roxbury:										
Julia Ward Howe.....	1,047	1,141	1,092	1,104	1,125	1,165	1,174	1,201	1,289	1,347
Lewis Intermediate.....	1,504	1,578	1,683	1,777	1,931	2,010	1,946	981	1,017	1,039
Martin.....	684	636	625	623	693	719	691	780	778	774
Sherwin.....	919	895	883	922	953	985	1,053	1,030	1,030	1,010
William L. Garrison.....	998	1,012	1,103	1,144	1,138	1,124	1,293	1,108	1,099	1,124
Theodore Roosevelt Intermediate.....					1,511	1,564	1,472	1,504	1,500	1,509
Brighton:										
Bennett.....	1,662	1,709	1,838	1,928	1,988	2,004	2,203	2,471	2,668	2,790
Thomas Gardner.....	1,650	1,665	1,520	1,517	1,544	1,587	1,590	1,656	1,643	1,636
Washington Allston.....	1,175	1,105	1,167	1,210	1,328	1,352	1,380	1,396	1,341	1,262
West Roxbury:										
Agassiz.....	758	728	749	742	767	778	775	755	796	763
Bowditch.....	1,150	1,143	1,185	1,164	1,134	1,090	1,095	1,108	1,169	1,307
Charles Sumner.....	1,135	1,073	1,055	1,030	1,070	1,002	1,035	1,168	1,211	1,374
Francis Parkman.....	744	727	791	757	799	830	858	887	896	947
Longfellow.....	1,359	1,323	1,370	1,378	1,480	1,292	1,423	1,466	1,639	1,639
Lowell.....	1,172	1,202	1,188	1,195	1,285	1,193	1,248	1,225	1,205	1,207
Robert Gould Shaw.....	1,387	1,412	1,497	1,528	1,546	1,592	1,697	1,886	2,066	2,364
Washington Irving Intermediate.....						697	819	902	1,014	1,087
Dorchester:										
Christopher Gibson.....	997	1,045	1,035	1,088	1,036	1,133	1,136	1,215	1,249	1,216
Edmund P. Tileston.....	920	886	919	966	1,060	1,148	1,255	1,418	1,584	1,652
Edward Everett.....	1,603	1,621	1,631	1,612	1,625	1,664	1,639	1,702	1,592	1,598

Emily A. Fifeild	901	824	732	746	987	1,123	1,065	1,101	1,129
Frank V. Thompson			787	772	772	798	878	1,361	1,435
Gilbert Stuart	824	805					660	839	851
Grover Cleveland								738	765
Henry L. Pierce	1,814	1,793	1,844	1,833	1,828	1,194	1,240	1,263	1,282
John Marshall	1,217	1,355	1,397	1,503	1,570	1,900	1,632	1,654	1,714
John Winthrop	1,729	1,712	1,780	1,838	1,797	1,841	1,844	1,848	1,753
Mary Hemenway	2,221	2,260	2,208	2,251	2,195	2,113	2,011	1,891	1,964
Mather	2,568	2,575	2,711	2,677	2,704	2,652	2,435	2,417	2,427
Minot	611	603	614	629	612	648	672	794	915
Oliver W. Holmes	1,117	1,058	1,043	1,009	998	1,105	985	1,048	1,091
Phillips Brooks	1,685	1,692	1,688	1,687	1,763	1,821	1,851	1,750	1,706
Robert Treat Paine						957	977	998	1,099
Roger Wolcott	3,009	3,206	2,258	2,397	2,429	2,062	2,200	2,253	2,330
William E. Endicott	1,810	1,829	2,450	2,486	2,623	1,799	1,741	1,750	1,746
William E. Russell	992	1,009	998	992	992	983	1,031	993	961
Hyde Park:									
Elihu Greenwood	1,351	1,384	1,432	1,423	1,456	1,491	1,599	1,669	1,687
Henry Crew	697	803	1,076	1,135	1,146	1,167	1,247	1,278	1,350
Totals	92,910	94,254	98,790	100,542	101,877	102,397	103,486	103,994	103,553
C — SPECIAL SCHOOLS.									
Boston Trade	340	349	441	468	484	504	596	663	760
Trade School for Girls	262	259	552	561	614	674	567	504	602
Horace Mann	130	141	156	158	148	149	139	146	151
Boston Clerical	194	196	219	228	254	331	410	447	382
Boston Disciplinary Day	19	22	27	25	33	39	65	48	45
Totals	945	967	1,403	1,440	1,533	1,697	1,777	1,808	1,940

SUGGESTED BUILDING PROGRAM

The following is a suggested program for the construction of high and Latin, intermediate and elementary school buildings.

NOTE.—Within each group, the order is alphabetical. It is not intended to indicate the order of construction.

High Schools

GROUP I

(Immediately)

Dorchester: Dorchester High School for Boys, addition.

Fenway: Girls' Latin School, addition to The Teachers College Group, freeing the Patrick A. Collins Building for the Girls' Latin School.

Fenway: Public Latin School, addition.

South End: Girls' High School (new).*

GROUP II

(As soon as Group I is completed)

Dorchester: High School for Girls (if pressure remains in Roxbury-Dorchester section in spite of intermediate school development and the new Girls' High School).

Roslindale-West Roxbury: New high school.

Intermediate Schools

GROUP I

(Immediately)

Brighton: Bennett District.

Brighton: High School (present building), remodelled for intermediate school.

Dorchester: Henry L. Pierce-Minot Districts.

Jamaica Plain: Agassiz-Bowditch Districts, Pershing Road.

GROUP II

(This group can be only tentative and will depend on developments of the next five or six years. Some may need transfer to an earlier group and others indefinite postponement.)

* The adequacy of the Girls' High School Building and the Girls' High School Colony was carefully studied. In the opinion of the Survey Committee the main building was inadequate, if not unsafe, and the Colony was both inadequate and unsafe. The Survey Committee recommended to the School Committee that a new Girls' High School Building be constructed.

Charlestown: Build or reconstruct.
Dorchester: Edward Everett District, build or reconstruct.
Dorchester: Gilbert Stuart-Minot Districts.
Dorchester: Mary Hemenway-Minot Districts.
Dorchester: Phillips Brooks District.
East Boston: Blackinton-John Cheverus Districts.
Hyde Park: Elihu Greenwood-Edmund P. Tileston Districts.
Roxbury: Dearborn-Hugh O'Brien-John Winthrop Districts,
build or reconstruct.
Roxbury: Dillaway-Dudley Districts, build or reconstruct.
South End: Everett District.
South Boston: Build or reconstruct for two intermediate schools.
West Roxbury: Robert Gould Shaw District.
West Roxbury-Roslindale: Charles Sumner-Longfellow-Robert
Gould Shaw Districts, build.

Elementary Schools

GROUP I

(Immediately)

Brighton: Harriet A. Baldwin School, Bennett District, addition.
Dorchester: Roger Wolcott District, new unit.
East Boston: Chapman School, addition.
Jamaica Plain: Margaret Fuller School, Bowditch District,
addition.
West Roxbury: Robert Gould Shaw District, Temple Street,
new unit.

GROUP II

(This group can be only tentative, based upon later building developments. Some may need transfer to an earlier group and others indefinite postponement.)

Allston: Harvard School, Thomas Gardner District, new unit.
Brighton: Oak Square-Faneuil, new elementary district.
Dorchester: Edmund P. Tileston District, addition or new unit.
Neponset: Minot District, new unit.
Roslindale: Charles Sumner District, addition or new unit.
Roslindale: Longfellow District, new unit.
Roxbury: Henry L. Higginson District, addition or new unit.
West Roxbury: Robert Gould Shaw District, new unit.
West Roxbury: Robert Gould Shaw District, new unit at
Germantown.

Projects Now Under Construction

HIGH SCHOOLS

Brighton: Brighton High School (new).* Contract let February 14, 1929, Rugo Construction Co., Inc., \$1,255,000.

INTERMEDIATE SCHOOLS

Dorchester: Wellington Hill. Contract let May 20, 1929, Matthew Cummings Co., \$732,300.

ELEMENTARY SCHOOLS

Fenway: Prince District, Peterborough Street. Contract let April, 1929, Frank Imhof Co., \$185,000.

Hyde Park-Dorchester: Elihu Greenwood District, Rugby section. Appropriation for land and plans only.

Roslindale: Longfellow District, Phineas Bates School, addition. Contract let March 27, 1928, D. D. W. Co., \$243,000.

Roxbury: William Lloyd Garrison School, addition. Contract let January 8, 1929, Lamont Bros., \$84,000.

Portables.—In connection with the foregoing recommendations the Committee considered not only the increase and shifting of school population, treated elsewhere in this report, but also the number of portable buildings which have been and are now in use, as follows:

Portables Used in Each School Year

1914	96	1922	210
1915	97	1923	221
1916	117	1924	223
1917	131	1925	210
1918	127	1926	201
1919	134	1927	183
1920	158	1928	205
1921	167		

* Plans for the new Brighton High School Building were studied by the Survey Committee and certain suggestions made. These suggestions resulted in a restudy of the plans and as a result modifications were made in the building.

PROBLEMS RELATING TO THE CONSTRUCTION OF SCHOOL BUILDINGS

Procedures and Practices in the Planning of Public School Buildings

Economies in Schoolhouse Planning.

With the increase in tax rates and with the demands for increased opportunities in education, it is essential that Boston employ every practical means to secure sound economies in schoolhouse planning. If, in the efficient planning of a high school building, sufficient money can be saved to build a much-needed elementary school, then that sort of planning should be employed. Efficient planning does not substantially change the cost per cubic foot, but it does affect materially the cost per pupil. Studies of this problem show that some buildings cost less than \$500 per pupil offering the same educational advantages as other buildings costing over \$1,000 per pupil. This difference in cost is due to scientific planning and adaptation of administrative policies.

An Inquiry Regarding Standards in Schoolhouse Planning

The attempt to establish standards as a part of the procedure in planning public school buildings is of recent origin. In order that pertinent data on the subject might be secured, a questionnaire was prepared and sent to a selected list of the larger cities of the country. These cities were chosen on the basis of previous knowledge of their activity in schoolhouse planning.

Satisfactory replies were received from the following cities: Buffalo, Cincinnati, Denver, Detroit, Houston, Los Angeles, Minneapolis, Oakland, Omaha, Philadelphia, Providence, Pittsburgh, St. Louis, St. Paul, Seattle, Trenton, N. J., and Worcester. It will be noted that these cities represent all parts of the country and therefore give a fair view of the progress being made along the lines of the investigation.

Most of these cities sent reports and other printed material describing their procedures and standards. From these sources the following findings and suggestions are presented.

A Building Program

Many cities have followed a "hand to mouth," shortsighted policy of building to meet what appeared to be the immediate

need. The result of this procedure has left such communities with buildings badly placed to meet the trends of population, on inadequate sites, and not adapted to future educational development. Such lack of proper planning is costly in the long run. In order that a wise and forward-looking policy may be employed, it is essential that certain studies should be made as a fundamental basis of procedure. A few such studies are suggested.

1. The Present School Plant.—Periodic inspection of all school buildings in use will keep before the school authorities those buildings in greatest need of repair, remodeling, extension or replacement.

2. Growth of School Enrolment.—Continuous studies of school enrolment should be made and prepared in graphic manner to show the trends of increase or decrease as follows:

- a. Elementary schools by grades and by districts.
- b. Intermediate schools by grades and by districts.
- c. Senior high schools by grades and by districts.

3. Home Locations of Pupils.—The school should be located as nearly as possible to the geographical center of its district. In order that a proper assignment of districts may be made for existing buildings, and also that new building sites may be wisely selected, it is essential that "pin study" maps be prepared to show the home location of the pupils, as follows:

- a. Each elementary school district.
- b. Each intermediate school district.
- c. Each high school district.

4. The Trends of Population.—Any building program should be forward-looking. New buildings must be located so that they will satisfactorily meet the needs of the future school generations. Therefore, every factor that will aid in determining these future needs should be employed. The following studies will prove helpful:

- a. Charts and graphs to show the increase of population during the past twenty-five years, rates of increase by years and by districts or divisions of the city.
- b. A "pin study" map showing the location of new homes built during a period of three or five years will show population trends helpful in locating new building sites.
- c. A study of the location of births during a period of two or three years will be helpful in locating new elementary buildings.

5. Selection of Sites.—A wise policy should also consider the available sites of proper size and strategic location in the growing districts before the land costs become excessive and before taxable property has been constructed thereon. A careful consideration of the studies suggested makes this procedure practical.

6. A Ten-Year Program.—A period of ten years is none too long for a future building program. After the careful consideration of all factors involved great economies can be achieved in the working out of such a program.

Fundamental Policies in the Planning of Intermediate and High Schools.

To build a schoolhouse today is not a problem of seating a certain number of pupils in a certain number of standard classrooms. It is a much more complicated problem and involves what has been called the "housing of a definite program of studies," with a certain administrative policy and plan of school organization. Before we can reduce materially the cost of school buildings, we must bring to pass a more efficient administration and organization of our schools. The following policies will illustrate this point:

1. Lockers.—Spaces for books and wraps should be provided by lockers. This saves the use of areas that have proved wasteful and that could be used for instruction purposes. It also eliminates the cost of providing book spaces in desks located in so-called home rooms, usually academic classrooms.

2. Home-Rooms.—All rooms used for full time instruction should be "Home-Rooms." The capacity of a building has usually been determined by the number of home-room desks for the storage of books to be placed in academic classrooms. In our secondary schools of today this means that if these rooms only were filled with pupils, the remainder of the building would be vacant. If all are to be used for "home-room" purposes, they should be planned and equipped properly for this purpose. This implies at least a suitable seat for each pupil.

3. Multiple Uses of Rooms.—While we cannot expect a school to be organized on a 100 per cent efficiency basis, we can at least strive toward that goal in planning our buildings. Ideally then, each room should be used somewhere near to its capacity

practically every period in the day. When a room is not used for its original purpose then it should be available for some other activity. Often this means providing a type equipment which is adaptable to more than one purpose. If the teacher meets five classes each day and the day has six or seven periods, then, by providing that teacher with a desk in a teacher's workroom, another teacher can be assigned to that room for the vacant periods. This policy will materially reduce the number of rooms required in a building planned for a given number of pupils.

4. Size of Rooms.— The size of a room should be determined by the minimum space requirements of the activity to be housed in that particular room. There are many types of rooms in the modern secondary school. Each type must be worked out according to a well-defined plan. Some of the factors to be considered are the following:

a. Classrooms.— Size of desk to be used, outside aisles, aisles between desks, space for teacher's desk, blackboard, bulletin boards, closet, bookcase, table, chair, etc., together with the number of pupils to be seated must be determined before a standard size for classrooms can be determined.

b. Laboratories.— Before the science laboratory can be selected and placed, the administrative policy must be determined. To illustrate: If the class periods are but forty minutes or forty-five minutes long, then double periods for laboratory work are required and in a six-period day only four sections can be scheduled for one laboratory. If the school is run on a sixty-minute period basis with no double periods for laboratory, then the room can be so equipped and planned that six classes per day can meet in the room with no need for a lecture room.

c. Libraries.— The size and equipment of a school library again depends upon the educational policy. Ideally the library should provide space for from 5 per cent to 8 per cent of the enrolment of the school for reference work; it should provide space for the teaching of the use of the library, small conference rooms, a work room for the librarian, and a stock or storage room, shelving, files, cabinets, desks, etc. These facilities must be laid out to scale in the most economical manner possible for the work to be accomplished.

d. Gymnasiums, Drill Halls.— Physical training and health education form an essential part of the program for

both boys and girls in the modern secondary school. It is recommended that for the City of Boston a very thorough study of this problem be made.

e. Auditorium.— Each school should be provided with an auditorium. From the point of view of the school itself, a room adequate to seat slightly over one-half of its enrolment is recommended. This room should be in constant use. It is here that work in group activities, such as public speaking, music and dramatics, can be scheduled. Classes can be assigned to this room for visual education, using the stereopticon and moving picture equipment. In many schools it serves the music department for classes, glee clubs, orchestras, bands, etc. It also serves for assemblies and entertainments of all kinds. This room should serve as the center of school life. It should be planned for the use of the pupils. This means that the size, proportions and design of the room should be worked out to the greatest advantage for the pupils taking part from the platform as well as in the audience.

f. Shops.— No standardization with respect to shops for the teaching of the manual arts to boys has been established in this country. Whatever the local policy may be must be taken as the basis of planning such shop spaces and equipment as may be arrived at upon studying the local situation. The educational policies to be determined are the following:

1. Unit shops or general shops?
2. If unit shops, which units or trades?
3. Size of sections.

When these questions are settled by the school authorities the floor spaces and placing of equipment can be planned.

g. Practical Arts for Girls.— Much more has been provided for the training of boys than for girls in the field of the practical arts. Rooms for the teaching of household arts have been provided and the equipment has been standardized to some extent. The situation warrants a study of the various handicrafts in which girls may be trained with profit from both a cultural and vocational point of view. Such studies would determine the essential floor spaces and equipment needed.

h. Fine Arts.— Rooms especially designed and located should be provided for the teaching of drawing and of music.

i. Commercial Rooms.— Such subjects as bookkeeping, typewriting, office practice, and commercial geography and commerce require special equipment which in turn determines the size of the room.

j. Other Special Rooms.— The lunch room or school cafeteria can be planned so that it can also serve as a study hall by closing off the kitchen and serving sections by folding doors. Other rooms requiring special consideration are the administrative suite, teachers' rooms, health clinics, book rooms, toilets, storage and service spaces.

The Planning of Elementary School Buildings.

The planning of an elementary school building is a much simpler process than that of planning an intermediate or high school. However, the evolution of public education demands that consideration be given to the changing policies and practices to the end that the proposed building will house the activities of the school satisfactorily for a number of years comparable with the lasting quality of the building.

Among the practices approaching standards the following suggestions are offered in the planning of schools housing the kindergarten and the first six grades:

1. Elevation.— Elementary school buildings should not be more than two stories in height and should be built at grade level, that is, without basement rooms.

2. Ground Plan.— Elementary school buildings should be of the open type to insure the best possible light and ventilation in classrooms.

3. Classrooms.— The size of the classroom shall be determined by the number of pupils to be accommodated and the furniture to be used.

4. Kindergarten.— The kindergarten shall occupy space equal to about one and one-half classrooms.

5. Science Rooms and Shops.— Special rooms for natural science and handwork for both boys and girls shall be provided according to the size of the school.

6. Auditorium.— A small auditorium, to accommodate about 300 people, should be built primarily for educational purposes, but should also consider the possible community needs.

7. Health Rooms.— Playrooms for use on rainy days and for health instruction should be provided for boys and for girls. These rooms should be planned more definitely for health instruction than for play.

8. Special Facilities.— Each elementary school should be provided with the following facilities:

- a. Office unit.
- b. Small health clinic.
- c. Toilets for both sexes.
- d. Small library of classroom size.
- e. Clothing lockers or wardrobes in classrooms.
- f. Teachers' rest room.
- g. Storage and supply rooms.
- h. Sanitary drinking fountains on each floor.
- i. Blackboards shall be from 27 inches to 30 inches in height from the floor.

The Preparation and Study of Floor Plans

Cooperative Study of Plans.— The floor plans or sketches prepared by the architect should be worked out in cooperation with the representative of the School Committee who is the expert in planning. This person should be experienced in school administration and able to visualize the school in operation within the proposed building. Before the plans are submitted to the School Committee for approval they should be carefully studied and approved by this expert as meeting the standards accepted by the school authorities and satisfying the particular needs of the school to be housed. Among the points to be considered are the following:

1. Light.— Orientation of the building and certain rooms such as:

- a. North light for drawing and art rooms.
- b. South or southeast light for biological laboratories.
- c. North light in dental and medical clinics, etc.

2. Extensions.— Planning for future extensions of the building and the location of certain special rooms with this in mind to save needless expense in tearing out plumbing, etc., and other changes in extending the structure.

3. Stairways and Exits.— A careful study of stairways and exits from the point of view of safety and traffic congestion.

4. **Passageways.**—Corridor provisions as to width, extent, angles, light, etc., to avoid congestion or confusion.

5. **Service Systems.**—To check from the point of view of the administration, the location, etc., of service systems, such as lighting, ventilating, cleaning, clocks, telephones, drinking fountains, toilets, storage spaces, alarms, and signals.

6. **Capacity.**—To check the actual seating and working capacity of the proposed building. This is a most important function and requires expert knowledge in the organization and administration of a school.

7. **Adaptability of Special Rooms.**—To check all special rooms from the point of view of the equipment to be installed and its adaptability to multiple uses.

8. **Elasticity of Plan.**—To check the elasticity of the plan with respect to non-supporting cross partitions, etc.

9. **Location of Special Rooms.**—To check the location of special rooms. In either an intermediate school or a high school it is quite essential that certain special rooms be located in such a manner that every consideration be given to convenience for the pupils, ease of supervision, safety to life, health, reduction of up and down traffic, freedom from traffic congestion, and at the same time, consideration for economies in construction. To illustrate the foregoing points the following comments are accepted as standards in general practice:

a. **Administrative Suite.**—The administrative suite should be centrally located on the main floor, directly opposite or near the main entrance. This is for the convenience of the public and of the teachers and pupils who make most frequent use of the office upon entering or leaving the building. It is also best located here for purposes of supervision of the school.

b. **Library.**—The library should be centrally located and is usually found on the second floor, center, frequently over the main entrance or over the administrative office.

c. **Laboratories.**—Laboratories and special rooms requiring considerable plumbing are often concentrated to save costs in construction. This is advisable when it does not interfere with the best organization of the school. Two plans

are in use, one placing these rooms all on one floor, usually the top floor, the other plan placing such rooms in tier at one corner or end of a building.

d. Auditoriums and Gymnasiums.— The location of auditoriums and gymnasiums is determined by a number of factors entering the problem. The topography of the site may make it possible to use a slope in the ground to great advantage in reducing the cost of excavating. The use to be made of these rooms by the public as well as the school may influence the location. In any event, the primary consideration is the saving of time to the pupils who must use these rooms each period in the day.

Conclusion

This report is not intended as a "code of standards" for schoolhouse planning. It is intended to serve as a basis for the working out of such a code for the City of Boston. The suggestions made are the result of a survey of the best practices in the leading cities of the country. These procedures show the trend toward more economical planning and greater efficiency in school administration. It is very evident that the two must go hand-in-hand. Therefore, it is a fundamental consideration that in order to secure economy in the building of schoolhouses there must be a basic understanding in regard to the organization and administration of the school in regard to courses of study and teaching practices. It is equally fundamental that the one who guides the architect in the working out of the plans for a new school building must be experienced in school administration and must work in close cooperation with those in charge of the schools.

REORGANIZATION OF THE SCHOOLHOUSE COMMISSION

The recommendations of the Survey Committee relating to the reorganization of the Schoolhouse Commission are now matters of public record.

However, as this has been an important part of the work of the Committee, there is included in this summary the following material relating to the plan of reorganization proposed by the Survey Committee:

1. A statement of the Survey Committee relating to House Bill No. 1103 — "An Act to Establish a Board of Commissioners of School Buildings and a Department of School Buildings in the City of Boston."

2. A copy of House Bill No. 1103.

3. A statement of the Advantages of the Proposed Bill over the Existing Law.

4. A copy of House Bill No. 1303, the amended form of House Bill No. 1103, which was passed by the State Legislature and signed by the Governor of the Commonwealth.

5. (In the Supplement to Part I.) An Extract from the Report of Patterson, Teele and Dennis, Accountants and Auditors, employed by the Survey Committee to examine the records of the Boston Schoolhouse Commission on file in the City Auditor's Office.

A Statement by the Survey Committee of the Boston Public Schools Relating to the Reorganization of the Schoolhouse Commission

On February 28, 1929, the following report relating to the establishment of a Board of Commissioners of School Buildings and a Department of School Buildings in the City of Boston was made to the Boston School Committee by the Survey Committee of the Boston Public Schools:

February 28, 1929.

To the School Committee of the City of Boston:

The Survey Committee appointed by your Honorable Board on April 9, 1928, has made a careful study of the various factors involved in the increased expenditures of the School Committee.

One phase of these expenditures relates to appropriations for new school buildings and sites, and for the repair and alteration

of existing school buildings. In addition to the facts already presented in several conferences with your Committee, the Survey Committee now submits a brief general statement of some of its findings in support of proposed legislation.

The Schoolhouse Department was established by an Act of Legislature (Chapter 473, Acts of 1901) for the purpose of constructing, altering and repairing public school buildings. This department is in charge of three paid commissioners appointed by the Mayor.

Under this law and amendments thereto the Schoolhouse Department and the School Committee were expected to cooperate to the end that school buildings and their additions, alterations and repairs, and the procuring of land for new buildings would be provided without delay or waste.

The result of our investigation shows that there have been both delay and waste in the construction and repair of school buildings. These are due to a number of factors which grow out of the anomalous system which places the responsibility of appropriating the necessary funds upon the School Committee, elected by the people, and the duty of expending the money appropriated upon the Schoolhouse Commission, appointed by the Mayor and to him only responsible. There is no official representing both of these bodies to whom they may submit any difference of opinion.

There has been great delay in the construction of school buildings not caused by inadequate financial provisions. In fact, to cite but two examples, it has taken as long as five years to construct a high school building and four years to construct an eight-room elementary building.

Under the original law it was provided that the Schoolhouse Commission should be a continuing body. This provision was later modified so that with each new city administration the personnel of the Schoolhouse Commission has changed, thus causing additional delays.

In procuring sites for schoolhouses and for other school purposes a number of instances were found where land was taken at an expense to the city of thousands of dollars and never used for school purposes.

The appropriations of the School Committee for new building projects are based on estimates furnished by the Schoolhouse Commission. Although these have often proved inaccurate the School Committee has no other guide. If these estimates are too

large the money appropriated is locked up until the building is finished; if too small the Schoolhouse Commission must have additional money supplied to it, else the building will not be completed. This has happened in so many cases that the Survey Committee is forced to the conclusion that there is no businesslike basis for the determination of the cost of constructing new buildings.

The failure of the Schoolhouse Commission to make any published report during any of the past three years indicates a lack of businesslike procedure. A department spending four or five million dollars of the city's money each year in building operations should have a mass of accumulated information that should be valuable for its own use and available to the appropriating body and the public generally.

In the matter of repairs and alterations there were no facts easily available of the slightest informative character from the Schoolhouse Department or the Auditor's Department.

A firm of certified public accountants was employed with a clerical force furnished by the Survey Committee and a general examination was made over the past four years and a detailed examination over ten and one-half months of 1928. The figures and facts thus made available show unwarranted delays, unbusinesslike and wasteful methods.

The Charter requires competition in contracts for over \$1,000 in the aggregate of various items of a similar character. In the period February 1, 1925, to September 30, 1928, \$5,601,599.93 was expended for alterations and repairs. Of this vast sum only 18 per cent was spent as a result of competitive bidding, while 82 per cent, amounting to \$4,555,800.30, was awarded to contractors without competition.

From innumerable instances the Survey Committee was forced to the conclusion that a substantial amount of the money expended for repairs and alterations has been used without sufficient regard for the city's interests. After careful consideration of the mass of facts before it the Survey Committee is convinced that so long as the present system prevails waste and delay will continue.

The Survey Committee, therefore, recommends that the present system be abolished and that the work be placed in charge of a properly qualified person, appointed by and serving at the pleasure of an unpaid board of three commissioners, one appointed by the Governor, one appointed by the Mayor, and one appointed by the School Committee.

The Survey Committee believes that an unpaid board of three citizens whose chief duty will be the selection of a competent man to carry on the construction and repair of school buildings will provide a more efficient and economical agency for building and repairing school-houses.

It further believes that this unpaid board should be appointed by the elected officials who have to do with the appropriations for school purposes in the city of Boston. The Governor of the Commonwealth passes on all legislative authority given to the School Committee to appropriate money. Thereafter the School Committee and the Mayor are the only officials that have anything to do with the appropriations.

Accordingly, the Survey Committee recommends unanimously that the appended bill be presented to the Legislature at the present session to carry its recommendations into effect.

Respectfully submitted,

SURVEY COMMITTEE, BOSTON PUBLIC SCHOOLS.

HOUSE BILL NO. 1103

Mr. Shattuck of Boston presented a petition of Francis C. Gray, chairman of the school committee, for the establishment in the city of Boston of a board of commissioners of school buildings and a department of school buildings. Cities.

THE COMMONWEALTH OF MASSACHUSETTS.

In the Year One Thousand Nine Hundred and Twenty-Nine.

AN ACT TO ESTABLISH A BOARD OF COMMISSIONERS OF SCHOOL BUILDINGS AND A DEPARTMENT OF SCHOOL BUILDINGS IN THE CITY OF BOSTON.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The board of commissioners of school buildings of the city of Boston is hereby established and shall consist of three citizens of Boston who are otherwise neither officials nor

employees of said city, one of whom shall be appointed by the governor of the commonwealth, one by the mayor and one by the school committee of said city, all within thirty days after this act becomes law. During the current year the commissioner appointed by the mayor shall be for a term of three years, the commissioner appointed by the school committee shall be for a term of two years, and the commissioner appointed by the governor shall be for a term of one year, and on or before the expiration of any term a commissioner shall be appointed as aforesaid for a term of three years beginning with the first day of June in the year in which said term expires. Any vacancy occurring shall be filled in the manner aforesaid for the remainder of the term. The commissioners shall serve without pay. The necessary expenses and cost of quarters, equipment, secretary and clerical services shall be paid, upon approval of the school committee, from the appropriations which the school committee is now authorized to make.

SECTION 2. The department of school buildings of the city of Boston is hereby established and shall be under the charge of a superintendent of construction elected by the board of commissioners of school buildings and shall serve at the pleasure of said board of commissioners. His salary shall be established by said board of commissioners of school buildings, with the approval of the school committee, but shall not exceed twelve thousand dollars per annum. He shall make a written report to the mayor, to the school committee and to the board of commissioners of school buildings annually or oftener as the mayor, or the school committee or the board of commissioners may require and in such manner and detail as may be required.

SECTION 3. The board of schoolhouse commissioners of the schoolhouse department established under the authority of chapter four hundred and seventy-three of the acts of nineteen hundred and one, shall be retired on November thirtieth, nineteen hundred and twenty-nine. Except as provided in this act, the said superintendent of construction shall, upon his election, succeed to, have and exercise all the power and authority conferred, and shall be subject to all the duties and obligations imposed, by all existing laws, whether special or general, upon the commissioners of the schoolhouse department established under the authority of chapter four hundred and seventy-three of the acts of nineteen hundred and one, and amendments thereto, in addition to the powers and authority conferred by this act.

SECTION 4. The said superintendent of construction shall appoint, with the approval of said board of commissioners, one or more deputy superintendents, one of whom shall have assigned to him the repairs and alterations of all school buildings. The deputy superintendents shall be paid such salaries as may be fixed by the superintendent of construction, with the approval of the board of commissioners of school buildings.

SECTION 5. With the exception of the board of three commissioners established under the authority of chapter four hundred and seventy-three of the acts of nineteen hundred and one, the employees of the schoolhouse department, now employed with the approval of the department of civil service and registration, shall be reappointed to similar positions in the department of school buildings.

SECTION 6. The employees of the schoolhouse department referred to in section five shall retain all rights to retirement with pension that shall have accrued or would thereafter accrue to them, and their services shall be deemed to have been continuous as if this act had not been passed.

SECTION 7. The school committee of the city of Boston shall submit all proposed budgets and appropriation orders for the construction and furnishing of new school buildings both temporary and permanent, including the taking of land therefor, and for school yards and the preparing of school yards for use, and for the rent of hired school accommodations, and for the alteration and repair of school buildings, and for furniture, fixtures and means of escape in case of fire, and for fire protection for existing buildings, and for improving existing school yards, to the board of commissioners of school buildings for examination and such investigation as said board of commissioners may desire to make, and no appropriation of money for any of the above-named purposes shall be made by the school committee until a written report on the same shall have been made to the school committee by said board of commissioners. All such reports of the board of commissioners shall be incorporated in full in the minutes of the school committee meeting next following the receipt thereof.

SECTION 8. The superintendent of construction shall not erect or substantially alter any building or provide temporary school accommodations, or furnish school buildings, or prepare school yards until the superintendent of public schools of said city shall have submitted in writing to said superintendent of construction a requisition or order adequately describing the buildings to be

altered or erected or the need to be supplied; nor shall said superintendent of construction substantially alter or erect any building requiring plans and specifications until such plans and specifications have received, in writing, the approval of the superintendent of public schools; nor shall said superintendent of construction request the street commissioners to take any land, except within the limits of a school district which shall first be designated by the school committee, nor until the superintendent of public schools shall approve in writing the particular parcel of land to be taken. The school committee may authorize payment of money for lands taken without the approval of the mayor.

SECTION 9. All acts or parts of acts inconsistent herewith are hereby repealed.

SECTION 10. This act shall take effect upon its passage.

A Statement by the Survey Committee of the Advantages of the Proposed Bill Over the Existing Law *

HOUSE BILL NO. 1103

AN ACT TO ESTABLISH A BOARD OF COMMISSIONERS OF SCHOOL BUILDINGS AND A DEPARTMENT OF SCHOOL BUILDINGS IN THE CITY OF BOSTON

1. Why are Changes Necessary?— The changes in the present system of constructing, altering and repairing school buildings and the acquiring of new sites are necessary because of (a) inadequate housing, (b) delay and waste.

2. Lack of Coordination in Present System.— Inadequate housing and delay and waste are primarily due to lack of coordination between the Schoolhouse Commission and the School Committee. Legally the two bodies, responsible for closely related work, are independent of each other. The School Committee appropriates, the Schoolhouse Commission expends the appropriations made. Differences of opinion develop, deadlocks result, with no tribunal to hear and arbitrate the claims of each.

3. The Appointment of the Board of Commissioners.— Attention is called to Section 1 describing the personnel and appointment of the Board of Commissioners of School Buildings.

4. The Three Appointive Officials.— One member shall be appointed by the Governor of the Commonwealth, one by the

* Sent to Legislative Committee on Cities.

Mayor of Boston, and one by the School Committee of Boston, the three elected officials who have to do with appropriations for school purposes in the City of Boston.

Note.—Why Were These Three Appointive Officials Selected?

The sources of appointive power of public officials in the City of Boston are the Mayor, the Governor and the School Committee. These alone have such legal authority. All three are represented in the new commission of school buildings.

5. A Representative Tribunal.—This proposed commission will serve as an independent, representative tribunal to hear complaints, adjust difficulties and coordinate various parts of the system under which school buildings are constructed. No board or official with this or any similar function now exists.

6. An Independent Board.—While the creation of this Board is in the hands of three elected officials, it is at the same time independent of any one of them in the performance of its legal duties.

7. A Restraining Check.—So far as matters relating to school-house construction and repair are concerned, this commission will serve as a check not only upon the Superintendent of Construction, but also upon the School Committee.

8. Complete Knowledge of Details of the Department.—The Superintendent of Construction is directly responsible to the Commissioners of School Buildings. These Commissioners have every legal right to complete knowledge of every detail in the department which the Superintendent of Construction directs. Through the Commissioners, the School Committee and the Mayor have the same right. No such right exists under the present system.

9. A Guarantee of a High Grade Superintendent of Construction.—The representative character of the Board of Commissioners of School Buildings will guarantee the selection of a superior type of official.

10. The Board of Commissioners of School Buildings.—Attention is called to Section 7, defining important duties of the Board of Commissioners of School Buildings.

11. Building Budgets.—To this Board the School Committee shall submit all proposed budgets and appropriation orders for the construction, furnishing, alteration and repair of school buildings, etc.

12. Written Reports.—No appropriation of money for any of the above-named purposes shall be made by the School Committee until a written report on the same shall have been made to the School Committee by said Board of Commissioners.

13. The Publication of Reports.—All such reports of the Board of Commissioners shall be incorporated in full in the minutes of the School Committee next following the receipt thereof.

NOTE.—The Public Informed.—Under the proposed law all decisions, reports and recommendations of this independent commission of school buildings become matters of public record. For the first time the public will be fully informed of the complete situation relating to the expenditure of public funds for school-house construction, repair, equipment and related items.

14. The Superintendent of Construction.—Attention is called to Section 2 — regulating the appointing, and defining the salary, power, and duties of the Superintendent of Construction.

15. Responsible to Commissioners.—The Superintendent of Construction must be satisfactory to the Commissioners of School Buildings. This provision will serve as a check upon his ability to direct the department efficiently. At the same time, if he is performing his duties satisfactorily the possibility of his removal is remote — due to the diverse and representative character of the Board of Commissioners of School Buildings.

16. Written Report to All Interested Officials.—The Superintendent of Construction shall make a written report to the Mayor and to the School Committee or the Board of Commissioners of School Buildings annually or oftener as the Mayor, the School Committee, or the Board of Commissioners of School Buildings may require and in such manner and detail as may be required.

17. A Continuing Policy of Construction.—A continuing policy of school-house building should result. The Superintendent of Construction should be a permanent official as is the Business Manager of the School Committee now on permanent tenure.

18. The Approval of the Superintendent of Schools.—The Superintendent of Construction shall not erect or alter buildings, nor shall a particular parcel of land be taken without the approval of the Superintendent of Schools. The erection and location of school buildings are educational as well as technical matters.

This provision serves as a check not only upon the Superintendent of Construction, but also upon the three Commissioners of School Buildings and upon the School Committee.

HOUSE BILL NO. 1303

(NOTE — In May, 1929, this bill (Chapter 351 of the Acts of 1929) was passed to be enacted by the Senate and House of Representatives and was approved by His Excellency, Governor Frank G. Allen, May 29, 1929.)

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Twenty-Nine.

AN ACT TO ESTABLISH A BOARD OF COMMISSIONERS OF SCHOOL BUILDINGS AND A DEPARTMENT OF SCHOOL BUILDINGS IN THE CITY OF BOSTON

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The board of commissioners of school buildings of the city of Boston, hereinafter referred to as the board of commissioners, is hereby established and shall consist of three citizens of Boston who otherwise are neither officials nor employees of said city, one of whom shall be appointed by the mayor of said city without approval by the civil service commissioners, one by the school committee thereof, and one shall be chosen by the two so appointed or shall be appointed by the governor if the appointees of the mayor and school committee fail to choose a commissioner as aforesaid within thirty days after the second of such appointees has been appointed. In the case of the original appointments hereunder, the appointments by the mayor and school committee shall be made within thirty days after the acceptance of this act and the commissioner appointed by the mayor shall serve until the expiration of three years, the one appointed by the school committee shall serve until the expiration of two years, and the one chosen by said appointees or appointed by the governor shall serve until the expiration of one

year, from December first of the current year, and on or before the expiration of any term of a commissioner, his successor shall be appointed for a term of three years, in the manner provided for the appointment of the commissioner whose term expires; provided, that if the term expiring is that of a commissioner chosen by the appointees of the mayor and the school committee or appointed by the governor as aforesaid, a successor shall be appointed by the governor only in the event that said appointees fail to choose one within thirty days after the expiration of such term. All commissioners shall serve until the appointment of their successors. Any vacancy occurring in said board shall be filled for the remainder of the term by the mayor, by the school committee, by their appointees or by the governor, according as the original appointment was made; provided, that, in the case of a vacancy in the office of the commissioner chosen by said appointees, a commissioner to fill such vacancy shall be appointed by the governor only in the event that said appointees fail to choose a successor within thirty days after the occurrence of such vacancy. The commissioners shall serve without pay. The necessary expenses and cost of quarters, equipment, secretarial and clerical services shall be paid, upon approval of the school committee, from appropriations which it is authorized to make.

SECTION 2. The department of school buildings of the city of Boston is hereby established and shall be under the charge of a superintendent of construction who shall be elected by the board of commissioners of school buildings and shall serve at the pleasure of said board. His salary shall be established by said board of commissioners, with the approval of the school committee, but shall not exceed twelve thousand dollars per annum. He shall make a written report to the mayor, to the school committee and to the board of commissioners annually or oftener as the mayor, or the school committee or the board of commissioners may require and in such manner and detail as may be required.

SECTION 3. Upon the election of a superintendent of construction under section two, the board of schoolhouse commissioners of the schoolhouse department, and said department, both existing under the authority of chapter four hundred and seventy-three of the acts of nineteen hundred and one, and acts in amendment thereof and in addition thereto, shall be abolished. Except as provided in this act, the said superintendent of construction

shall, upon his election, succeed to, have and exercise all the power and authority conferred, and shall be subject to all the duties and obligations imposed, by all existing laws, whether special or general, upon the board of schoolhouse commissioners of the schoolhouse department established as aforesaid, in addition to the powers and authority conferred, and the duties and obligations imposed, by this act.

SECTION 4. The said superintendent of construction shall appoint, with the approval of the board of commissioners, one or more deputy superintendents, one of whom shall have assigned to him the charge of repairs and alterations of all school buildings, subject to the direction of the superintendent of construction. The deputy superintendents shall be paid such salaries as may be fixed by the superintendent of construction, with the approval of the board of commissioners.

SECTION 5. After the schoolhouse department of said city is abolished all of its employees who are subject to civil service shall be reappointed to similar positions with the same status in the department of school buildings, without civil service examination or enrollment.

SECTION 6. The employees of the schoolhouse department referred to in section five shall retain all rights to retirement with pension that shall have accrued or would thereafter accrue to them, and their services shall be deemed to have been continuous, to the same extent as if this act had not been passed.

SECTION 7. The school committee of the city of Boston shall submit all proposed budgets and appropriation orders for the construction and furnishing of new school buildings both temporary and permanent, including the taking of land therefor, and for school yards and the preparing of school yards for use, and for the rent of hired school accommodations, and for the alteration and repair of school buildings, and for furniture, fixtures and means of escape in case of fire, and for fire protection for existing buildings, and for improving existing school yards, to the board of commissioners of school buildings who shall make written report thereon to the school committee after such examination and investigation as said board of commissioners may desire to make, and no appropriation of money for any of the above-named purposes shall be made by the school committee until such report shall have been made to the school committee by said board of

commissioners. All such reports of the board of commissioners shall be incorporated in full in the minutes of the school committee meeting next following the receipt thereof.

SECTION 8. The superintendent of construction shall not erect or substantially alter any building or provide temporary school accommodations, or furnish school buildings, or prepare school yards until the superintendent of public schools of said city shall have submitted in writing to said superintendent of construction a requisition or order adequately describing the building to be altered or erected or the need to be supplied; nor shall said superintendent of construction substantially alter or erect any building requiring plans and specifications until such plans and specifications have received, in writing, the approval of the superintendent of public schools; nor shall said superintendent of construction request the street commissioners to take any land, except within the limits of a school district which shall first be designated by the school committee, nor until the superintendent of public schools shall approve in writing the particular parcel of land to be taken. The school committee may authorize payment of money for lands taken, without the approval of the mayor.

SECTION 9. This act shall be submitted for acceptance to the voters of said city at the city election in the current year in the form of the following question which shall be placed upon the official ballot to be used at said election: — “Shall an act passed by the general court in the year nineteen hundred and twenty-nine, entitled ‘An Act to establish a board of commissioners of school buildings and a department of school buildings in the city of Boston,’ be accepted?” If a majority of the votes cast on said question are in the affirmative, this act shall thereupon take effect, but not otherwise.

Result of Referendum Relating to Chapter 351 — Acts of 1929

At the municipal election held on Tuesday, November 5, 1929, the following referendum was voted upon:

“Shall an act passed by the general court in the year nineteen hundred and twenty-nine, entitled ‘An Act to establish a board of commissioners of school buildings and a department of school buildings in the city of Boston,’ be accepted?”

A “Yes” vote is in support of Chapter 351 of the Acts of 1929; a “No” vote disapproves of this Act.

The official statement of the result by wards with the total vote is as follows:

	Yes.	No.
Ward 1.....	5,103	3,365
Ward 2.....	4,369	3,427
Ward 3.....	3,810	1,857
Ward 4.....	4,802	1,372
Ward 5.....	5,185	1,189
Ward 6.....	3,936	2,836
Ward 7.....	4,566	3,106
Ward 8.....	3,306	2,419
Ward 9.....	3,472	1,619
Ward 10.....	3,852	3,297
Ward 11.....	4,714	2,647
Ward 12.....	5,387	1,584
Ward 13.....	4,527	3,029
Ward 14.....	6,414	1,721
Ward 15.....	4,270	3,813
Ward 16.....	5,367	4,033
Ward 17.....	6,576	2,513
Ward 18.....	6,612	3,194
Ward 19.....	6,029	2,964
Ward 20.....	7,916	2,677
Ward 21.....	5,419	1,642
Ward 22.....	4,821	2,972
Totals.....	110,453	57,276

CUSTODIANS OF SCHOOL BUILDINGS

Present System.— The present system of paying a gross sum to custodians and allowing them to hire all of their assistants has many unbusinesslike features.

Since there is no minimum wage for assistants, it is obvious that the less money spent for this purpose the greater balance will remain as a net compensation for the custodian.

Such a system may permit other evils, since the qualifications of those hired by custodians are not defined by the School Committee.

So far as the Survey Committee has been able to learn, there is no definite record of the net compensation of all custodians.

Some reports are on file relating to an effort to obtain this information but the results do not give such precise information as is necessary to cover all cases.

The compensation of custodians is a very complicated matter. It is difficult without a long careful investigation to arrive at a solution which is fair to all parties concerned. If a complete change in the present system were proposed, it might prove to be more expensive than that now in effect. However, certain recommendations seem to be desirable.

Recommendations

1. Control.— That, consistent with the policy of holding the principal of the school responsible for all activities within the school, as outlined elsewhere in this report, the Schoolhouse Custodian be directly under the control of the Superintendent of Schools and that custodians of buildings be under the orders of the principal but responsible to the Schoolhouse Custodian. In case of disagreement about his functions, there may be an appeal to the Superintendent of Schools.

2. Supervision.— That the large and constantly increasing number of school buildings requires an increase in the supervisory force of this department.

3. Promotion.— That the present system of promotion for custodians be revised by the Board of Superintendents acting in consultation with the Schoolhouse Custodian.

4. Reports.— That a monthly report to the Schoolhouse Custodian be made by each custodian showing in detail the total

amount of compensation he has received and also a detailed account of all expenditures he has made, with proper vouchers for all receipts and expenditures.

5. Further Study.—That, after this system has been in effect for a period of two years, the whole problem be again restudied by a special committee appointed by the School Committee, this special committee to consider, among other things, the advisability of placing the employees of custodians under civil service rules.

SPECIAL CLASSES FOR RETARDED PUPILS

1. **Plan.**—Special classes in the Boston public schools are conducted for pupils unable to make progress in the regular work of the grades. The Department of Special Classes deals with pupils retarded from two to five years. No attempt is made to deal with cases more than five years retarded.

2. **Development.**—This work was started in Boston in the year 1898, and developed slowly for the first few years. In 1912 there were nine such classes.

The department in the last eleven years has shown the following increases:

51 to 115 teachers, a gain of 125 per cent.

\$52,000 to \$234,000 in maintenance cost, an increase of 345 per cent.

These increases are due to:

a. **Legislation.**—Establishing additional classes in accord with the state law passed in 1920 requiring the establishment and conduct of special classes.

b. **Salaries.**—General increases in salaries of teachers.

c. **Smaller Classes.**—The establishment of a 15 to 20 pupil standard per teacher.

3. **Selection of Pupils.**—Entrance to these classes is recommended after an individual psychological examination of pupils who are failing to progress in the regular work of the grades.

4. **Transfer of Pupils.**—The transfer to a special class is made only with the consent of the parents. Pupils of the lowest mental grade (about one-fourth of one per cent of the mentally defective) are not accepted for special class work, but are cared for at state institutions — Waverley, Wrentham and Belchertown.

5. **Sources of Pupils.**—Over three-quarters of the special class pupils come originally from Grades I, II, and III. Of the 130 special classes conducted during the last school year, 94 were in the local schools for pupils 7 to 12 years of age, and 36 in the special class centers for pupils 12 to 16. About two-thirds of the special class pupils are in these local classes and the remaining one-third at the special class centers.

6. **Retention.**—As a general rule a special class child cannot be expected to return to the regular grade work; before admission to the special class, the lack of ability is definitely fixed.

7. Types of Instruction.— The 15-pupil local classes for the younger pupils are ungraded and small enough to enable the teacher to study and solve individual needs. The 20-pupil classes at the special centers are conducted on a departmental basis, carpentry, tailoring, catering, etc., with related academic work. In both instances the major effort is placed on the development of manual skill.

8. Need.— While there has been a marked increase in the expense of this work, the Survey Committee, after examination, believes that there is real need of this type of education and that this expansion has been necessary in order to comply with the existing law.

9. Qualifications of Teachers.— Since the work of special class instruction has been developing over a period of years, it is the opinion of the Survey Committee that at the present time a higher standard of educational preparation should be required of teachers who desire to qualify for this type of work.

RESULTS OF A SELF-SURVEY BY DIRECTORS AND PRINCIPALS

On October 23, 1928, the Survey Committee addressed a communication to every principal and director in the school system.

1. Inquiry.— Principals were asked to reply to the following:

a. In your school, without reducing the effectiveness of instruction and without interfering with the proper administration of your school, what specific economies are you able and willing to introduce?

b. What is your estimate of the saving resulting therefrom in each of the following school years: (1) 1929-30; (2) 1930-31; (3) 1931-32?

Directors were asked to reply to the following:

a. What are the specific causes for the increased expenditures in your department?

b. What economies can you suggest in your department without interfering with the effectiveness of the work under your direction?

2. Self-Survey.— In effect, by this means there was a self-survey of every school and of every department in the school system, whereby there was a city-wide study by responsible administrators and executives.

3. Suggestions Received.— While not all replies gave specific suggestions, the following is a summary of the recommendations submitted:

a. Standardization of machine shop equipment.

b. Purchase of stock for production work in industrial classes as needed, purchase to be made on requisition by the principal.

c. Shops to be in a separate building of shop construction.

d. More businesslike and economical procedure in repairs and alterations of school buildings.

e. Greater efficiency in the planning and construction of school buildings.

f. Redrawing of district lines to make more effective school units.

g. Combining small school districts.

h. Efficient organization of all schools, elementary, intermediate, high and Latin schools.

i. Payrolls of the custodian should pass through the hands of the principal of the school.

j. Sizes of industrial classes in intermediate schools should be increased.

On the other hand, there was almost unanimous opinion by principals that the schools are being maintained on the educational side with due regard for economy.

A considerable number felt that economy was being over-emphasized. The reports of several directors stated that radically increased budgets were essential on the basis of needed expansion.

GENERAL STATEMENT RELATING TO INCREASED SCHOOL EXPENDITURES DURING THE PERIOD 1916=1928

There appear to be several factors involved in the increased costs of the Boston school system. The following items are definitely related to this question, and give a rather complete general statement of the situation as viewed by the Survey Committee:

Diminished Purchasing Power of the Dollar

The United States Bureau of Labor Statistics states that, using the value of the 1913 dollar as a base (100.0), the index of the cost of living for various years is shown in the following table:

Year.	Index.	Year.	Index.
1913.....	100.0	1922.....	167.3
1916.....	118.3	1925.....	175.7
1919.....	188.3	1928.....	170.7

While other authoritative indices have been used in the studies made, the trend of all such data is similar to that given. It is obvious, therefore, without further comment, that the diminished purchasing power of the dollar affects expenditures in all parts of the school system.

Increase in School Population, Particularly in the More Expensive Intermediate and High School Grades

During the last eleven years the percentage increase in the number of pupils in various parts of the school system has been as follows:

Percentage Increase in Number of Pupils, 1918-1928

	1918.	1928.	Per Cent Increase.
Kindergarten.....	6,879	9,207	34
Elementary, Grades 1-6.....	67,346	71,072	5.5
Intermediate, Grades 7-9.....	15,980	23,640	48
High and Latin, Grades 9-12.....	15,368	22,332	45
The Teachers College.....	262	789	201
Special schools.....	855	1,695	98
Totals.....	106,690	128,735	21

The greatest growth has been in those parts of the school system which are most expensive.

Also, it appears that the pupils are now remaining in school for a longer period of time than they did ten years ago.

Increase in the Number of Teachers, 1916=1928

The number of teachers has increased as follows:

Schools.	1916.	1928.	Per Cent Increase.
The Teachers College	16	47	194
High and Latin	564	893	58
Elementary	2,104	* 2,538	21
Kindergarten	260	313	20
Special	356	561	58
Totals	3,300	4,352	32

*Of these elementary teachers, 678 are intermediate, serving in Grades VII, VIII and IX. The intermediate classification was not in effect in 1916.

Growth of Special Departments.

Department.	Personnel.			Salaries.		
	1917.	1928.	Per Cent Increase.	1917.	1928.	Per Cent Increase.
Assistant Superintendents.....	5	6	20	\$27,480	\$42,000	53
Directors and Supervisors.....	30	63	110	71,107	219,968	209
Directors, Practice and Training.....	4	6	50	7,777	19,960	157
Directors, Educational Investigation and Measurement.....	1	3	200	3,780	11,464	203
Directors, Penmanship.....	—	2	—	—	7,040	—
Board of Examiners.....	—	3	—	—	13,584	—
Supervisors of Attendance.....	22	31	41	34,324	83,200	142
Special Class Teachers.....	51	115	125	52,608	234,144	345
Assistants, Vocational Guidance.....	2	15	650	2,160	45,040	1,985
Directors, Manual Arts.....	4	6	50	10,759	25,920	141
Assistants, Manual Arts.....	8	12	50	12,530	35,920	186
Teachers, Manual Arts.....	100	183	83	136,394	509,303	273
Directors, Household Science and Arts.....	2	3	50	4,190	10,400	148
Teachers, Household Science and Arts.....	117	158	35	121,547	384,138	216
Directors and Supervisors, Music.....	5	11	120	13,476	37,968	182
Assistants, Music.....	9	12	33	11,298	32,420	187
School Physicians.....	43	57	33	22,135	71,150	221
School Nurses.....	37	57	54	32,616	104,116	219
Directors, Physical Education.....	1	3	200	2,860	14,112	393
Teachers, Physical Education.....	22	29	32	28,703	74,432	159
Teachers, Military Drill.....	3	13	333	5,004	35,288	605
Appropriations for Extended Use of Public Schools.....	—	—	—	35,537	84,779	139
Totals.....	466	788	69	\$636,285	\$2,096,346	229

Teachers' Salaries

1. Increased Appropriations.— The increased appropriations for teachers' salaries have been due to:

- a. The increase in the number of teachers.
- b. The increase in their compensation.

2. Salary Comparisons.— From 1900 to 1928 the trend of teachers' salaries has been upward in actual dollars received. Before arriving at any general conclusion, however, it is essential to consider salary changes in relation to the varying value of the dollar in purchasing power. For the purpose of having a definite basis of comparison, the 1913 dollar is taken as the standard and the purchasing power of the dollar for other years is defined in terms of the 1913 dollar.

3. Values.— The table appended shows the salary per teacher in Boston for different years since 1900, and also the purchasing power of the same salary expressed in 1913 dollars. This salary per teacher was obtained by dividing the total amount paid for teachers' salaries each year by the total number of teachers reported in the Annual Statistics of the Boston Public Schools. While this gives the salary of no single teacher; it does show salary changes over a period of years.

Year.	Actual Salary per Teacher.	Salary per Teacher (in 1913 Dollars).
1900.....	\$1,122	\$1,393
1910.....	1,066	1,057
1915.....	1,260	1,199
1916.....	1,313	1,110
1920.....	1,941	932
1925.....	2,386	1,357
1926.....	2,523	1,440
1927.....	2,560	1,482
1928.....	2,586	1,515

4. Ratios.— From this table it is evident that not until 1926 did the purchasing value of the salary per teacher equal that of 1900. Despite the fact that teachers' salaries are higher in 1928 than in 1916, nevertheless the proportional part of the entire annual school expenditures devoted to salaries is less for the year 1928 than for the year 1916. In 1916, 67 per cent of the total school expenditures was devoted to teachers' salaries, while in 1928, 58 per cent was devoted to this purpose.

In Part II of this report, pages 245-247, a detailed study of the different salary groups of teachers is presented.

Construction of New School Buildings

1. Increased Costs.—In the last twelve years there has been a marked increase in expenditures for lands, plans and construction.

The expenditures in 1928 were 675 per cent over those for this purpose in 1916. In 1916, 6.8 per cent of the total school expenditures was spent for new buildings, while in 1928 17.4 per cent of the total was for this item.

There are many reasons for the increase, the more important of which include the following:

- a. The general cessation of building during and just following the War.
- b. The effort from 1920 through 1928 to provide for natural growth and to make up for lack of construction during the years immediately preceding 1920.
- c. The general increase in labor and material costs.

2. Table of New Construction.—The number of new buildings constructed is shown in the following table:

Date of Construction.	Number of School Buildings.	Date of Construction.	Number of School Buildings.
1916	1	<i>Brought forward</i>	24
1917	5	1923	8
1918	3	1924	11
1919	5	1925	13
1920	2	1926	11
1921	3	1927	6
1922	5	1928	8
<i>Carried forward</i>	24		—
Total number new buildings since 1916			81

3. Expense.—The expenditures for lands, plans and construction in 1916 were \$439,996.94, while the expenditures for this same purpose in 1928 were \$3,408,407.55.

4. Building Program.—From a study of the increase and shifting of the school population, the buildings to be replaced, and new buildings necessary to house the children, it appears that although large sums have been appropriated for new school

buildings the city has been and now is so far behind in its building program that it will be several years before appropriations for this purpose can be substantially reduced.

5. Improved System.—It is probable that with a more efficient and better coordinated system of schoolhouse construction, more buildings can be built in a year and also the cost of construction materially reduced.

Other Factors

Among other factors directly affecting school costs are the following:

Broadening of the school curriculum, including the extension of industrial education in all schools; the increase in the scope of special types of instruction, including special classes for retarded children, nutrition classes for malnourished children, and classes for pupils with defective eyesight, speech and hearing; increased expenditures for physical education, health and recreation, during the regular school year and during summer vacations; the gradual reduction in size of classes; the extension of adult education; the increase in cost of maintenance, including fuel and light, alterations and repairs, and new construction.

Increased Expenditure for Fuel and Light, Including Electric Current for Power

The increase in this item since 1916 has been 122 per cent as shown in the following tabulation:

Year.	Expenditure.
1916=1917	\$204,919 26
1917=1918	303,380 54
1918=1919	460,447 45
1919=1920	317,171 47
1920=1921	564,168 36
1921=1922	492,867 29
1922=1923	382,789 94
1923=1924	535,399 89
1924=1925	422,322 73
1925 *	376,659 90
1926 .	415,192 69
1927 .	445,754 27
1928 .	455,622 81

* Eleven months only.

Increased Expenditure for Alterations and Repairs

The expenditures for alterations and repairs, protection against fire and fire hazard, and new furniture and furnishings for old buildings, including new lighting fixtures for the years 1916 to 1928, are as follows: *

Year.	Expenditure.
1916=1917	\$443,556 91
1917=1918	471,322 83
1918=1919	572,801 00
1919=1920	518,194 62
1920=1921	1,011,551 51
1921=1922	953,712 71
1922=1923	1,099,999 84
1923=1924	1,461,983 61
1924=1925	1,468,809 68
1925 †	1,420,455 35
1926	1,623,411 55
1927	1,675,124 10
1928	1,609,475 04

Boston's School Dollar

The chart, "How Boston's School Dollar was Spent," covers all money spent by the City of Boston for school purposes, including new schools, in 1916 and in 1927. The full circle represents the 100 cents of every dollar of expense, and each part the per cent used for that item.

The items for which 1927 used a larger portion of the budget than did 1916 are:

Fuel, Light and Supplies.	Alterations and Repairs.
Recreation.	New Schools.

The items for which 1927 used a smaller portion of the budget than did 1916 are:

Salaries for Teachers.	Salaries for Custodians.
Salaries for Officers.	Pensions.

The increases (aside from Recreation) have occurred entirely in connection with the physical or material costs of the schools. The decreases have occurred entirely in the personnel costs.

The item, "Teachers' Salaries," still remains the largest but is relatively less than in 1916.

* Expenditures for this item are made by the Schoolhouse Commission.

† Eleven months only.

CHART 2
HOW BOSTON'S SCHOOL DOLLAR WAS SPENT
(INCLUDING NEW SCHOOLS)

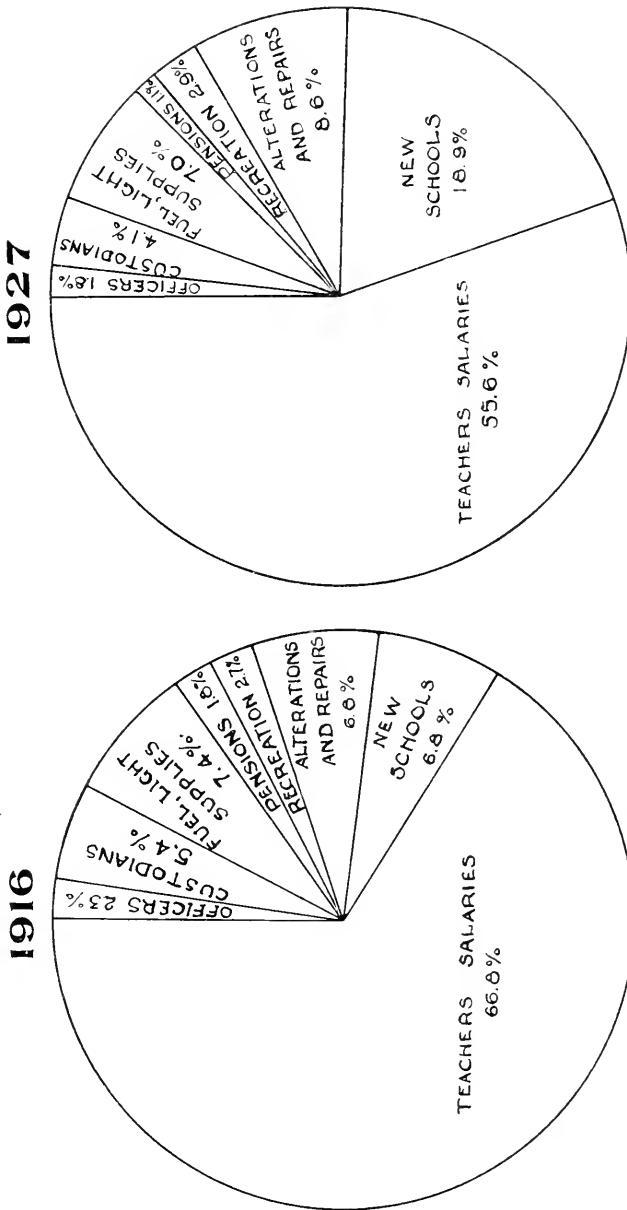


Chart 2 shows the relative percentages for all money spent for schools, for the years 1916 and 1927, including new buildings

Boston School Costs

The following table shows the money paid by the City of Boston for all school purposes, including new buildings. The costs are shown in two ways:

1. The actual amount expended in dollars.
2. The purchase value measured in 1913 dollars.

Year.	Actual Payments.	Purchase Value.
1916	\$6,486,123 57	\$5,483,000
1917	7,401,951 82	5,198,000
1918	7,395,605 73	4,241,000
1919	7,957,647 93	4,226,000
1920	11,108,753 22	5,328,000
1921	12,819,243 87	7,230,000
1922	14,108,375 76	8,433,000
1923	15,641,109 94	9,205,000
1924	16,350,665 34	9,578,000
1925 *	17,087,147 82	9,726,000
1926	19,774,251 61	11,287,000
1927	19,581,458 81	11,339,000

* Eleven months only.

The effective expense for schools actually decreased after 1916 and did not reach the 1916 total again until the year 1921. Since then there has been an increase in school support.

BONDING VS. PAY=AS=YOU=GO POLICY

1. Outstanding Indebtedness.—According to information received from the City Auditor on November 1, 1929, bonds of the City of Boston issued to pay for schoolhouses and sites were outstanding to the amount of \$9,830,300. The earlier issues are Sinking Fund bonds. The more recent are Serial bonds. After deducting Sinking Funds accumulated to meet such bonds as are not Serial, the net indebtedness was \$4,390,403.76.

2. School Building a Recurrent Expense.—It seems to the Survey Committee that the expense of building schoolhouses in Boston is properly considered a recurrent rather than an exceptional expense. Besides the natural growth of population there is a constant movement of population as residential districts are taken over for mercantile occupancy, and as suburban districts are built up. This involves new construction and often the abandonment of old school buildings.

3. Recommendation.—Recurrent expenses should be met out of current revenue, not by borrowing. Schoolhouses and sites should be paid for out of taxes and not by issuing bonds.

HEALTH EDUCATION

1. Present Status.—The Department of School Hygiene seems to the Survey Committee to be well equipped to carry on its work of health inspection and of utilizing preventive measures for the conservation of health.

2. Health Education Program.—However, there appears to be a need of a definite Health Education Program in all the schools. To carry out this program, the Survey Committee recommends as follows:

Recommendations

1. Training Course.—That a training course for teachers of Health Education be established in The Teachers College of the City of Boston.

2. Qualifications of Teacher.—That this work be in charge of a person trained as a teacher rather than as a medical expert, but possessing the necessary qualifications for this particular type of work.

3. Extension Courses.—That extension courses in Health Education be provided for the training of teachers now in the service.

4. Change of Emphasis.—That the material of instruction now used in the teaching of physiology and hygiene be reorganized so that the emphasis will be placed on health education.

PLACEMENT OF PUPILS IN PART-TIME AND PERMANENT POSITIONS

Findings.— In the opinion of the Survey Committee, there is not systematic coordination or centralized responsibility in the placement of pupils in part-time and permanent positions, including those in cooperative courses. This should be corrected, but the Survey Committee regrets that it is unable to give advice as to how it shall be brought about. In its opinion the responsibility for such advice to the School Committee should be taken by the Superintendent of Schools.

MAINTENANCE BUDGET

1. Source.—The maintenance budget includes information obtained from the principal of each school and the director of each department relating to:

a. Personnel:

1. Salaries for growth and expansion.
2. Salaries affected by promotion.
3. Salary reductions or eliminations.

b. Supplies and Incidentals.

On the basis of the information received, the major portion of the maintenance budget is made.

2. Recommendation.—In order that the information be definite and complete and that each item be tested on the basis of sound economy, it is recommended that no report be forwarded to the Board of Apportionment until it has first been approved by the principal or director and the assistant superintendent in charge of the school or department.

3. Purpose.—Such procedure will necessitate close scrutiny of every item by those school officials directly concerned with the problem involved, and will provide accurate information concerning each school and department when the Board of Apportionment meets for the preparation of the entire maintenance budget for the schools.

SUPERVISORS OF ATTENDANCE

In the opinion of the Survey Committee, the question of appointing women and Yiddish or other language-speaking supervisors of attendance does not come within the scope of this survey.

The Committee feels, however, that this matter should be given careful consideration by the School Committee.

LEGISLATION RELATING TO SCHOOL APPROPRIATIONS*

1. Present Statutes.—Legislative acts providing funds for the Boston school system include the following:

Financial Year, 1928.	Per \$1,000 Valuation.	Amount of Appropriations.
For General School Purposes.....	\$6 94	\$13,031,146 39
For Repairs and Alterations.....	91	1,712,628 71
For Physical Education.....	15	282,301 43
For School Physicians and Nurses.....	11	207,021 05
For Extended Use of Schools.....	04	75,280 38
For Pensions.....	05	94 100 48
For Americanization.....	03	56,460 29
For Vocational Guidance.....	03	56,460 29
Total.....	\$8 23	\$15,545,399 02

2. Development.—Some of these acts were passed at a time when it seemed essential to provide for the proper support of an activity, until such activity had passed the experimental stage and had established itself as a part of the school system. In certain of these acts which provide for special appropriations, this reason no longer exists as the activities referred to have become established parts of the school system.

3. Classification of School Funds.—In the opinion of the Survey Committee, all acts dealing with appropriations should be classified under the following four items:

1. General School Purposes.
2. Repairs and Alterations.
3. New Construction.
4. Pensions.

4. Advantages of Change.—Such a procedure will preserve a unity and solidarity in the system which the rapid expansion of special activities endangers. Moreover, it will make possible a surer control of the expansion of all parts of the school system, some of which have been favored with appropriation items which increase automatically by statute law as the valuation of the city increases.

* See Part II, page 179, Boston Public School Funds.

The change proposed will have the following advantages:

a. A well-ordered and balanced distribution of school funds.

b. A definite control by the School Committee of appropriations relating to the growth and expansion of every part of the school system.

c. A safeguard against unwarranted expansion of any one activity.

d. The elimination of special appeals to the Legislature for increased funds to be used in a single activity of the school system.

e. Flexibility of control where the need of the entire system is the controlling factor.

5. Recommendation.— The Survey Committee therefore recommends that the School Committee appeal to the General Court for such legislation as is necessary to bring about the proposed change.

SALARIES IN THE BOSTON PUBLIC SCHOOLS

1. Salary Schedules.— In adjusting the salary schedule of Boston public school teachers the salaries paid in other cities of approximately equal population throughout the country has been too often the chief factor. This method loses sight of the essential purpose of salary increases, namely, the attraction of superior people to the teaching profession and the basis of a high standard of qualification.

2. Teaching Service Fundamental.— It is essential that we have good school buildings, carefully planned and economically built; that a sound curriculum rich in cultural content and properly balanced be maintained; and that proper regard be given to progress in methods of teaching and revision of the curriculum; but all these will not, of themselves, provide an adequate system of public education. It is fundamental that we should secure the best available teachers, — teachers of broad sympathy, scholarly attainment, and superior professional training and experience. Such an investment is sound economy. No better use can be made of school funds than to provide for the highest type of teaching service for the training of our school children.

3. Open Competition.— Such high grade service can be obtained, however, only when there is the freest competition on open lists for all properly qualified teachers. To adopt a restrictive policy would be to deny to the children of Boston the benefit of the superior instruction which is to be expected when salaries are offered which are sufficiently large to attract the best teachers. A satisfactory salary schedule to be effective inevitably depends upon a policy of unrestricted and open competition. A generous public will lose its enthusiasm and become indifferent if the recruiting of its teaching staff is upon any other basis.

4. Basis of Salary Schedule.— In the opinion of the Survey Committee, such salaries should be paid as will attract and hold for the benefit of the Boston school children teachers comparable with the best in any municipality in the country.

PROCEDURE RELATING TO ANNUAL APPROPRIATION ORDER

1. The Survey Committee is of the opinion that the efficiency and wise development of the school system would be promoted if, whenever practicable hereafter, the Superintendent were held more fully responsible to the School Committee, and the other officers of the School Committee responsible to him.

2. **Recommendation.—a.** With this object in view, the materials for the estimates should be furnished by the Business Manager and the Assistant Superintendents to the Superintendent and he should submit the budget to the School Committee.

Nothing in the above recommendation shall conflict with or in any way interfere with the power and responsibility of the Business Manager to report directly to the School Committee as defined in Section 107 of the Rules, as follows:

SECT. 107. 1. He (the Business Manager) shall keep a careful oversight of all expenditures and all costs, and shall call the attention of the School Committee to any expense which may seem to him unnecessary, wasteful, or in excess of proper requirements; and whenever the amount for any item in the annual appropriation order shall have been wholly expended, shall immediately report that fact to the School Committee.

b. The Survey Committee also recommends that the Board of Apportionment shall at all times consist of the Superintendent, the six Assistant Superintendents, and the Business Manager.

TRAINING SCHOOL FOR TEACHERS OF MECHANIC ARTS

1. Purpose.—The purpose of the Training School for Teachers of Mechanic Arts is to provide an adequate supply of trained teachers of industrial subjects, especially in the intermediate schools where emphasis is not placed upon specific training for a trade.

Here, as elsewhere, it is important that the number of teachers in this training course bear a close relationship to the number of vacancies likely to occur.

2. Recommendation.—The Survey Committee recommends that a committee be appointed to study this problem. It is further suggested that on this committee there be a representative of the Chamber of Commerce, of Organized Labor, and of the Department of Manual Arts.

The following items should be studied:

- a. The general question as to the need of this school as a part of the Boston system.

If this need is established:

- b.
 1. The educational, occupational and technical preparation required for admission.
 2. The number of students to be admitted.
 3. The type and content of the courses offered.

SUPPLEMENT TO PART I

Included in the Supplement are:

1. An Extract from the Report of Patterson, Teele and Dennis, Accountants and Auditors, who made an examination of the records of the Boston Schoolhouse Department on file in the City Auditor's office.

2. Dates of Construction of Boston School Buildings as of October 1928.

3. A Composite Building Curve Indicating Variation in Values for Industrial Buildings for New England, supplied to the Survey Committee by Stone and Webster, Inc., Boston.

4. Curves Showing Fluctuations in Value of Four Types of Buildings in New England Based on Using Boston Labor and Material Prices — Year of 1913 Used as 100 — supplied to the Survey Committee by Stone and Webster, Inc., Boston.

**EXTRACT FROM THE REPORT OF PATTERSON,
TEELE AND DENNIS, ACCOUNTANTS AND
AUDITORS**

PATTERSON, TEELE AND DENNIS,
ACCOUNTANTS AND AUDITORS,

1 FEDERAL STREET, BOSTON,
DECEMBER 10, 1928.

To the Survey Committee for Boston Public School System,
15 Beacon Street, Boston, Massachusetts.

SIRS:

In accordance with your instructions, we have made an examination of the records of the Boston Schoolhouse Department on file in the City Auditor's office, City Hall, Boston, Mass., for the period from February 1, 1925, to September 30, 1928, inclusive, for the purpose of reporting upon the cost of land and buildings for schools, and the cost of repairing and remodeling school buildings, together with details of the appropriations made by the School Committee in respect thereto. Our examination also covered records prior to February 1, 1925, in respect to projects in process at that date, in order that the figures reported might show the total costs and appropriations in respect to all projects upon which expenditures were made during the foregoing period. We submit our report thereon as follows:

Schoolhouse Department — Brief Résumé of Organization

The Schoolhouse Department is in charge of three commissioners appointed by the Mayor. One commissioner is appointed in each year for a term of three years beginning with June 1. The authority and duties of the commissioners are set forth in the Statute under which the department was established (Chapter 473 Acts of 1901 and amendments thereto), and relate to the construction and furnishing of new school buildings, including the taking of lands therefor, and for school yards, the preparation of school yards for use, and the repairing and alteration of school buildings. The expenditures of the Schoolhouse Department, including salaries of the commissioners and employees, are chargeable against appropriations made by the School Committee.

The Schoolhouse Department is operated under two subdivisions, *e. g.*, "Land and Buildings for Schools" which deals with new buildings, etc., and "Schoolhouse Department" which deals with repairs and remodeling of school buildings, etc. Separate appropriations are made in respect to these subdivisions, the operation of which is set forth in detail below. There are approximately seventy regular employees in this department, distributed about equally between the two subdivisions.

Scope of Examination

Our examination was concerned mainly with the compilation and verification of the expenditures chargeable against the appropriations for Land and Buildings for Schools for the period from February 1, 1925, to September 30, 1928 (including payments to February 1, 1925, of projects then in process), details of which are set forth in Schedules A and B, and supporting exhibits. Comments in relation to the compilation and verification of the cost of the various projects are submitted in detail under the heading of "Land and Buildings for Schools." With regard to the expenditures chargeable against the appropriation for Repairs and Remodeling of School Buildings, etc., operated under the subdivision of "Schoolhouse Department," our work consisted of summarizing such payments for the three years and eight months ending September 30, 1928, which are set forth in Schedule C, and supporting exhibits. In addition, stenographers employed by the Survey Committee transcribed on cards, for the information of the Committee, details of the payments for repairs and remodeling of school buildings, etc., for the ten and one-half months ending November 15, 1928. We have summarized such payments on Schedules E and F, showing the total payments to the respective contractors, and the total repair charges by schools, as shown by the cards submitted to us.

Land and Buildings for Schools — Expenditures Classified as to Principal Items Thereof

We present in Schedule A a condensed summary of the total expenditures made by the Schoolhouse Department in respect to all projects for Land and Buildings for Schools, upon which any payments were made during the period of three years and eight months from February 1, 1925, to September 30, 1928,

inclusive, segregated as to expenditures for land damage awards, principal contracts, architects' fees, etc., an abstract of which is as follows:

Land Damages		\$2,937,576 10
Principal Contracts	\$16,099,080 53	
Architects' Fees	1,137,530 90	
Other Contracts	1,288,318 89	
		<hr/> 18,524,930 32
Blanket Contracts		228,395 62
Sundry Invoices		384,562 01
Other Items		1,049 495 41
		<hr/>
Total Expenditures for Land and Buildings for		
Schools		<u>\$23,124,959 46</u>

The extent of our verification of the various items shown by the above summary is hereinafter set forth in this report.

Land and Buildings for Schools — Expenditures Classified by Years

In Schedule B we present details, segregated by years, of the expenditures and appropriations in respect to all projects for Land and Buildings for Schools upon which any payments were made during the period of three years and eight months from February 1, 1925, to September 30, 1928, inclusive, which we summarize as follows:

Summary of Payments:

To January 31, 1921	\$533,974 51	
Year ending January 31, 1922	80,065 79	
Year ending January 31, 1923	629,377 88	
Year ending January 31, 1924	2,331 207 72	
Year ending January 31, 1925	2,906 765 28	
		<hr/>
Total to January 31, 1925		\$6,481 391 18
Eleven months ending December 31, 1925,	\$4,317,824 77	
Year ending December 31, 1926	4,655,749 21	
Year ending December 31, 1927	3,703,039 41	
Nine months ending September 30, 1928,	2,608,796 50	
		<hr/>
Total from February, 1925, to September 30, 1928		15,285,409 89
		<hr/>
Total Payments		\$21,766,801 07
Additional amounts payable on outstanding contracts		1,358,158 39
		<hr/>
Total Cost of Projects to September 30, 1928		<u>\$23,124,959 46</u>

Summary of Appropriations:**Credits:**

Original Appropriations	\$5,309,085 89	
Supplementary Appropriations	19,641,971 76	
Transfers from Other Items	3,185,048 68	
Total Credits		\$28,136,106 33

Charges:

Transfers to Other Items	\$2,370,444 18	
Expenditures	21,766,801 07	
Total Charges		24,137,245 25

Balance of Appropriations, September 30, 1928. \$3,998,861 08

Encumbered balance	\$1,358,158 39	
Unencumbered balance	2,640,702 69	
		<u>\$3,998,861 08</u>

Further remarks relating to the appropriations summarized above will be found later in this report.

Comments regarding the records examined, and the procedure adopted in compiling and verifying the expenditures shown by the summary on the preceding page, are set forth below:

Summary of Records Examined

The records examined by us in compiling and verifying the various items set forth in Schedules A and B, comprised copies of the City Auditor's reports for the years 1918 to 1927, inclusive, the City Auditor's record of payments for the nine months ending September 30, 1928, land damage award letters, approved contracts and invoices on file in the City Auditor's office, and the appropriation ledgers maintained by the Schoolhouse Department.

Procedure Adopted in Compiling and Verifying the Expenditures

In order to ascertain the total expenditures on account of the various projects set forth in Schedules A and B, we first listed all payments recorded in the City Auditor's reports for the years 1925, 1926 and 1927, and all payments shown in the City Auditor's record of payments for the nine months ending September 30, 1928, and in the case of projects started prior to February 1, 1925, we listed from the City Auditor's reports all payments pertaining to such projects made prior to that date. In some cases such payments extended as far back as the year 1918.

We agreed the aggregate payments in respect to each project, as tabulated by us and as listed in Schedule B, with the cumu-

lative payments shown by the appropriation ledgers maintained by the Schoolhouse Department. In order to ascertain the various items comprised in the costs, we examined and listed duly approved award letters relating to lands taken for school purposes in respect to all projects listed in Schedules A and B, and examined and listed approved contracts on file in the City Auditor's office relating thereto; we examined and listed paid invoices for furnishings, etc., supported by blanket contracts, and sundry paid invoices not supported by contracts. References to any special circumstances in connection therewith, noted by us, have been inserted as footnotes in the appended exhibits. Other items such as clerk of works, temporary heating, borings, expert services, etc., were not verified in detail by us.

Outline of Routine in City Auditor's Office with Respect to the Transactions of the Schoolhouse Department

The initial transaction that takes place with respect to a proposed project is the appropriation order made by the School Committee. Attested copies of such orders, together with orders for supplementary appropriations, are on file in the City Auditor's office. After the appropriation orders are received by the City Auditor, separate accounts are established for each item, to which are charged all payments made on account of the projects, such as land damage awards, payments against contracts, invoices, and payroll items, without details as to payees' names or materials supplied or services rendered.

Copies of land damage awards, as made by the Board of Street Commissioners, on account of lands taken for school purposes, and copies of all contracts, duly approved, which are awarded by the Schoolhouse Department, are also on file, to which are attached supplementary documents, such as releases, surety bonds (where required), lists of bidders and amounts of the bids, and details of additions to and deductions from the original amounts of the contracts. A record is kept of all payments made on account of the respective contracts in the contract record book. In addition, copies of all invoices are on file, constituting discount bills, regular bills and special drafts (*i. e.*, payments on account of contracts).

Invoices for materials or services are rendered in duplicate to the Schoolhouse Department; after approval for payment, the original is forwarded to the City Auditor's office, and the duplicate is retained by the Department. The expenditures of the

Schoolhouse Department are kept by the City Auditor's office in controlling accounts without details as to payees or materials, supplies or services rendered. Furthermore, the records kept by the Schoolhouse Department show only the names of the vendors without details of the materials supplied or services rendered, but no adequate system for filing invoices is maintained by the Schoolhouse Department. Consequently, in order to ascertain the expenditures not covered by specific contracts, we had to resort to an examination of the paid invoices on file in the City Auditor's office.

The paid invoices of the Schoolhouse Department on file in the City Auditor's office were banded together in bundles by months as follows: discount bills which were paid as rendered, regular bills paid on the 15th and last day of the month and special drafts paid as rendered. In order to develop the cost of a stated project, it was necessary for us to refer to the bundles containing the invoices needed and list them. This procedure consumed a large amount of time which could have been avoided by a more elaborate system of filing in the City Auditor's office or by a proper system of filing in the Schoolhouse Department. Owing to the fact that the City Auditor's office has to handle invoices for all Departments of the City, it does not seem practicable that this office should be required to maintain an elaborate filing system for the records of each Department, but the Schoolhouse Department, which expends such a large amount of money each year, should be required to maintain a proper file of invoices by projects, so that interested parties could readily obtain at any time the information to which they are entitled.

Summary of Classification of Expenditures

The principal items entering into the cost of new schools are land damages, general contracts usually covering all trades, architects' fees, finish hardware and furnishings and in some cases the grading of the land. Minor items of the cost of building schools comprise the printing of specifications, clerk of works, temporary heating, fuel, borings, experts' services, etc.

We comment upon the principal items comprised in the cost of new school buildings, as follows:

1. **Land Damage Awards.** — Lands required for school purposes are taken by right of eminent domain and awards are made therefor by the Board of Street Commissioners at the

request of the Schoolhouse Department. All such awards have to receive the approval of the Mayor before payment is made. When the amount of the original award is not objected to by the owners of the property taken, payment is made after approval by the Mayor. When the amount of the original award is disputed by the owners of the property, a hearing is granted by the Board of Street Commissioners in connection therewith, which may or may not result in the additional amount demanded being awarded. If an addition is made to the original award and it is assented to by the owner, a release is obtained from the owner, on payment of the amount awarded, giving up the right to make any additional claim against the City in respect thereto. If no addition is made to the original award or if the amount of the addition is less than the amount demanded, the owner has the option of accepting a *pro tanto* award and of bringing suit against the City for additional remuneration within one year from the date of the original award. The Law Department may at its discretion make settlements out of court when it is deemed to be for the best interests of the City to do so.

Copies of award letters on file in the City Auditor's office were examined by us, tabulated and made a part of the exhibits. We have indicated thereon notes as to how settlement was made in respect to the various awards for land damages on account of land taken for school purposes, and of any special circumstances connected therewith.

2. General Contracts.— In verification of the general contracts awarded for the erection of new school buildings, we examined duplicate contracts duly approved by the Mayor, on file in the City Auditor's office, which we have listed and made a part of the exhibits with footnotes in respect to any special circumstances relating thereto. It will be observed from such footnotes that in some cases the contracts were awarded without advertising, with the approval of the Mayor, and that in other cases the contracts were not awarded to the lowest bidders, when in the judgment of the Schoolhouse Commissioners and the Mayor, it was for the best interests of the City to award the contracts to other bidders. Aside from these items, it appears that the contracts were awarded to the lowest respective bidders after advertisements for bids had been inserted in the *City Record*.

3. Architects' Fees.— Architects employed by the City to prepare plans and specifications and to supervise the erection of

new school buildings are appointed by the Schoolhouse Commissioners with the approval of the Mayor. We examined contracts entered into by the Schoolhouse Department with the various architects employed by that Department in connection with new buildings erected or proposed during the period under review, aside from a few minor items of less than \$1,000 each. The following projects were abandoned during the period after payments had been made to architects on account of work on plans and specifications therefor:

Mar. 13, 1924.	} Addition to old Hyde Park High School	{ \$2,500 00 8,480 00	
May 31, 1924.			
			\$10,980 00
Oct. 31, 1925.	New Building — Everett District		5,508 00
Dec. 31, 1925.	New Building — Washington All- ston District	{ \$1,100 00 2,761 60	
			3,861 60
July 30, 1923.	New Building — Phillips Brooks District	{ \$2,145 12 15,300 00	
			17,445 12
Total			<u>\$37,794 72</u>

4. Finish Hardware.— We examined duly approved contracts on file in the City Auditor's office in support of the amounts expended during the period under review for finish hardware for new school buildings. Such contracts were listed by us and are included in the exhibits from which it will be noted that all contracts for finish hardware for new school buildings in process of construction during the period under review were awarded to the In a large number of cases this company was the sole bidder and in other cases where lower bids were tendered such bids were withdrawn and the contracts awarded to the

5. Furnishings and Sundry Items.— In verification of the expenditures for furnishings and sundry items for the period under review, we examined duly approved contracts, as listed in the exhibits, and paid invoices, on file in the City Auditor's office. In a number of cases the lowest bids were rejected and the contracts awarded to higher bidders because the low bidders did not propose to supply the styles or types of machines, etc., specified by the Schoolhouse Department.

We have inserted as footnotes, on the exhibits, comments regarding any special circumstances pertaining to the foregoing contracts or invoices.

6. Land and Buildings for Schools — Appropriations.—

In Schedule B and supporting exhibits, we present details of the various appropriations voted by the School Committee in respect to all projects for Land and Buildings for Schools in process of construction, completed or proposed, on which any expenditures were made during the period from February 1, 1925, to September 30, 1928, inclusive, a summary of which is as follows:

Credits	
Original appropriations	\$5,309,085 89
Supplementary appropriations	19,641,971 76
Transfers from other items	3,185,048 68
Total Amount Available	\$28,136,106 33
Charges	
Expenditures	\$21,766,801 07
Transfers to other items	2,370,444 18
Total Charges	24,137,245 25
Balance of Appropriations — September 30, 1928,	<u>\$3,998,861 08</u>
Encumbered	\$1,358,158 39
Unencumbered:	
Available	\$1,140,702 69
To be raised by taxation in	
1929 in accordance with	
Chapter 314, Acts of 1926, 1,500,000 00	
	<u>2,640,702 69</u>
	<u><u>\$3,998,861 08</u></u>

Specific amounts for each item appropriated by the School Committee are established at the time the appropriations are made for the ensuing year. The aggregate of all such items equals the total appropriation order for the Department. When the original amount appropriated is found to be inadequate to complete a project, supplementary appropriations are made and, in addition, if necessary, transfers may be made from other items having available balances.

We understand that, under the present procedure relating to transfers, the Schoolhouse Department notifies the School Committee of the amount required to complete a project in process of construction, etc., and suggests to the School Committee that such amount be transferred from available balances in other

appropriation items. The transfers, if deemed to be proper, are then voted formally by the School Committee, and approved by the Mayor.

Under this practice the expenditures for any particular item are not necessarily limited to the amounts appropriated therefor, *i. e.*, original and supplementary appropriations. The total amounts available for Land and Buildings for Schools during the period under review were fixed by statutes (Chapter 488, Acts of 1923; Chapter 327, Acts of 1925; and Chapter 314, Acts of 1926), and raised by taxation. Such amounts are appropriated for the respective projects as previously outlined herein. While the scope of our examination did not embrace an investigation of the basis of fixing the original and supplementary appropriations, it would seem that if the appropriations could be based upon more complete and accurate estimates of probable costs, the expenditures could be more rigidly controlled by limitation to the appropriations for the respective projects.

Schoolhouse Department — Repairs and Remodeling of School Buildings, etc.

At the time we commenced our examination of the records of the expenditures of the Schoolhouse Department, on file in the City Auditor's office, we were instructed to draw off in detail all the expenditures of that Department in respect to the repairing and remodeling of school buildings for the period from February 1, 1925, to September 30, 1928. After we ascertained the amount of work that would be involved in performing this task, we were instructed to abandon it. Stenographers employed by the Survey Committee were then assigned to draw off, on cards, details of all payments made by the Schoolhouse Department for repairs, etc., to school buildings for the period from January 1, 1928, to November 15, 1928. Such cards, containing only one item each, were made out in duplicate to facilitate the sorting thereof by payees' names and by schools. Upon completion of that work the cards were turned over to us to be summarized to show (1) the total payments to the respective individual contractors, and (2) the total repair charges by schools, sub-classified by contractors, to which detailed reference is made later in this report.

However, we summarized from the City Auditor's records, and submit in Schedule C and supporting exhibits, the expenditures of the Schoolhouse Department for Repairs and Remodeling

of School Buildings, etc., for the period from February 1, 1925, to September 30, 1928, a recapitulation of which is as follows:

Repairs and Remodeling of School Buildings:

Expenditures:

Major Educational Items — Alterations, Repairs, Furniture, etc.	\$740,899 32
General Alterations, Repairs, Furniture, etc.	4,641,362 63
Total Payments	\$5,382,261 95

Add:

Amounts payable on outstanding contracts at September 30, 1928	219,337 98
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Total Expenditures in respect to Repairs and Remodeling of Schools, etc.	\$5,601,599 93
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Deduct:

Amount of expenditures in respect to Repairs and Remodeling, etc., done on a competitive bid basis	1,045,799 63
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Balance — amount expended without competitive bidding	\$4,555,800 30
--	-----------------------

Percentage expended on a competitive bid basis	18.67%
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Percentage expended without competitive bidding	81.33%
---	--------

100.00%

Summary of Expenditures:

For Repairs and Remodeling of School Buildings (as above),	\$5,601,599 93
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For Administration Expenses	399,349 31
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Total Expenditures	\$6,000,949 24
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It will be noted from Schedule C that 81.33 per cent of the total expenditures for repairs and remodeling of schools, etc., during the period under review were made on a noncompetitive basis and that 18.67 per cent were made under competitive bidding.

In this connection we quote section 30 of the amended City Charter of 1909, as follows:

SECT. 30. Every officer or board in charge of a department in said city, when authorized to erect a new building or to make structural changes in an existing building, shall make contracts therefor, not exceeding five, each contract to be subject to the approval of the mayor; and when about to do any work or to make any purchase, the estimated cost of which alone, or in conjunction with other similar work or purchase which might properly be included in the same contract, amounts to or exceeds one thousand dollars, shall, unless the mayor gives written authority to do otherwise, invite proposals

therefor by advertisement in the City Record. Such advertisement shall state the time and place for opening the proposals in answer to said advertisement, and shall reserve the right to the officer or board to reject any or all proposals. No authority to dispense with advertising shall be given by the mayor unless the said officer or board furnishes him with a signed statement which shall be published in the *City Record* giving in detail the reasons for not inviting bids by advertisement.

While the practice followed in placing the work for repairs and remodeling of schools, etc., complies with the provisions of the City Charter, the City's interests might be better protected if the percentage of work done under contract were increased by consolidating two or more large repair jobs in one contract (even where the work is to be done in more than one school) where the aggregate estimated cost of similar jobs equals or exceeds \$1,000.

A review of the items paid during the nine months ending September 30, 1928, for which proposals were accepted, as shown by Schedule D, indicates that a large number of these items cost between \$800 and \$990 each. It would seem that two or more of these items of a similar nature might have been consolidated as one project and proposals invited by advertisements in the *City Record*, with the resulting economies to the City.

Orders for Repair Work Less Than \$1,000

During the course of our examination of the records in the City Auditor's office, we were informed that the procedure in issuing orders for less than \$1,000 to contractors for repair and remodeling work on schools is as follows:

When minor repairs are needed at a particular school the inspector in charge of that building issues an order to a contractor authorizing him to proceed with the work, and records the estimated cost of the work on the order blank. These orders are made out in triplicate, the original being sent to the contractor, the duplicate to the City Auditor's office and the triplicate being retained by the Schoolhouse Department. When the bill is received, it is checked by the inspector responsible for the supervision of the work and forwarded to the City Auditor's office for approval for payment. Before payment is authorized the bill is compared with the corresponding order on file in the City Auditor's office. We noted that in a large number of cases the amounts paid exceeded the inspector's estimates.

In the case of larger repair jobs (but less than \$1,000), blank proposal forms (in duplicate) with specifications for the work to be done, are mailed to certain contractors selected by the Department, on which the contractors insert the amounts for which they propose to do the work. After such proposals have been returned and one of them has been accepted by the Department, a written order is issued instructing the selected contractor to proceed with the work specified on the accepted proposal. When the work has been completed, an invoice therefor is rendered to the City. The invoice, after approval by an inspector, together with the original proposal, is then forwarded to the City Auditor's office for payment.

We noted that there was no evidence on file in the City Auditor's office to indicate that proposals are invited from more than one contractor in respect to work costing less than \$1,000.

We noted further that in many instances the dates of the acceptance of the proposal, the issuance of the order, and the invoice for the work done, were the same, or varied only a day or two.

Where the proposals based on specifications have been accepted prior to the performance of the work, contractors are not required to submit detailed invoices showing the material used and labor performed on the contracts. Such detailed information is required on invoices for work not based on written proposals. In view of the coincidence of dates noted by us, it would appear that the proposals and specifications might have been made the medium for avoiding the necessity of rendering detailed bills to the City for work performed. In this connection, we submit the following as a few examples of the cases described:

1. A proposal made by the . . . to furnish and install metal ceilings in two gymnasium basement rooms in the Bowditch School for the sum of \$990, the new work to receive two coats of lead and oil, was accepted on March 30, 1928; order number G 5293, dated March 31, 1928, was issued in respect to this work and the invoice for the work was rendered April 1, 1928. Payment of this invoice was withheld by the Auditor's office pending explanation by the Department as to how the work could be finished so quickly. A notation attached to the proposal states that the Chairman of the Schoolhouse Commis-

sioners reported to the City Auditor that the contractor worked all day Saturday, all night Saturday, and all day Sunday, as the work was of an emergency nature.

2. A proposal made by . . . to lay a granolithic sidewalk and a granolithic driveway at the Rice School for the sum of \$769.60, was accepted on April 16, 1928; order number D 1469 was issued on April 16, 1928, covering this work. The invoice rendered therefor was not dated, but it indicated that the work was performed between March 23 and March 30, 1928; *i. e.*, the work was done previous to the acceptance of the proposal, or the issuance of the written order.

3. A proposal made by the . . . to perform certain metal ceiling work at the Harris School for the sum of \$850, the metal on the ceiling to receive two coats of lead and oil, was accepted on January 30, 1928; order number X 3276, issued therefor, was dated February 1, 1928, and the invoice covering this work was dated February 2, 1928. This indicates that the work was nearly completed before the proposal was accepted or the order issued.

4. A proposal made by the . . . to furnish certain metal ceilings at the Lyceum Hall School for the sum of \$780 was accepted on February 27, 1928; order number X 3366 and the invoice therefor are also dated February 27, 1928, indicating that the work was nearly completed before the proposal was accepted or the order issued.

5. A proposal made by . . . to furnish all labor and materials to resurface tar concrete yard at the Albert Palmer School for the sum of \$990 was dated July 30, 1928; order number D 1585 was issued July 30, 1928, and the invoice therefor is dated August 2, 1928. It appears doubtful as to whether this work could have been completed between the date of accepting the proposal and the date of the bill.

6. A proposal made by the . . . to furnish certain metal ceilings at the Thomas Dwight School for the sum of \$980, all new work to receive two coats of lead and oil, was accepted on February 27, 1928; order number G 5091 and the invoice therefor were also dated February 27, 1928, indicating that the work was nearly completed prior to the acceptance of the proposal or the issuance of the order.

**List of Proposals Accepted and Paid for Repair Jobs of
Less Than \$1,000 Each During the Ten Months
Ending October 31, 1928**

We present in Schedule D a list of the proposals accepted and paid for repair jobs of less than \$1,000 each, during the ten months ending October 31, 1928, as shown by the paid proposal forms on file in the City Auditor's office. The amounts shown thereon are before deduction of 1 per cent discount which is usually allowed for prompt payment thereof. This list is presented for the purpose of showing the nature of the work done on proposals for less than \$1,000 each, but does not include any small items covered by invoices for which no proposals were invited from contractors.

**Summary of Paid Invoices for Repairs and Remodeling of
School Buildings, etc., for the Ten and One-Half
Months Ending November 15, 1928**

As heretofore mentioned in this report, stenographers employed by the Survey Committee drew off on cards details of the paid invoices on file in the City Auditor's office in respect to Repairs and Remodeling of School Buildings, etc. Such cards were also sorted according to contractors and to schools by the Survey Committee, and at the request of that Committee we have summarized these cards (as typed and sorted by its representatives) according to individual contractors and schools, respectively, on Schedules E and F. We have indicated on Schedule E the number of payments made to each contractor and the number of schools at which work was done by the respective contractors during the period, and on Schedule F we have indicated the number of contractors who worked at each school and the number of payments made for repairs, etc., in respect to each school during the period, as shown by the cards submitted to us.

Repairs and Remodeling of Schools — Appropriations

We present in Schedule G details of the appropriations made by the School Committee for the repairs and remodeling of school buildings, etc., for the period from February 1, 1925, to September 30, 1928, an abstract of which is as follows:

Credits:

Balance February 1, 1925	\$32,297 18
Appropriation for the eleven months ending December 31, 1925	1,435,000 00
Appropriation for the year 1926	1,620,660 37
Appropriation for the year 1927	1,675,362 39
Appropriation for the year 1928	1,668,299 77
Total Credits	\$6,431,619 71

Charges:

Payments:

Eleven months ending December 31, 1925	\$1,420,455 35
Year, 1926	1,623,411 55
Year, 1927	1,675,124 10
Nine months ending September 30, 1928	1,062,620 26
Total Charges	5,781,611 26

Balance — September 30, 1928	<u>\$650,008 45</u>
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All of the above appropriations are voted by the School Committee out of the amount available for school purposes.

Schoolhouse Department Pay Rolls

We present in Schedules H and I, for the information of the Survey Committee, a list of the employees of the Schoolhouse Department, and the annual salary of each, as shown by the current pay roll for the month of September. In Schedule H we have listed the names and annual salaries of the employees whose salaries are paid out of the appropriation for Land and Buildings for Schools and in Schedule I we have listed the names and annual salaries of the employees whose salaries are paid out of the appropriation for Repairs and Remodeling of School Buildings, etc.

In conclusion, we desire to express our appreciation of the many courtesies extended to us by the City Auditor and his staff during the course of our examination.

Respectfully submitted,

PATTERSON, TEELE & DENNIS,
Accountants and Auditors.

**DATES OF CONSTRUCTION OF BOSTON SCHOOL
BUILDINGS AS OF OCTOBER, 1928**

1800. Samuel Dexter. (Remodeled 1872.)

1823. Hawes Hall. (Remodeled 1859.)

1824. Sharp (not in use).

1838. Eliot.

1840. Simonds.

1842. Parkman.

1843. Brimmer.

1845. Louisa May Alcott.

Thomas Starr King.

1846. Louis Prang.

1847. Charles E. Daniels.

Hancock.

Mt. Pleasant Avenue.

Nahum Chapin.

Old Thornton Street.

Quincy.

1848. Harvard (Thomas Gardner).

1849. Austin.

Old Agassiz.

1850. Pierpont.

1851. Frances E. Willard.

1852. Dorchester Avenue.

Grant.

1855. Old Baker Street.

Old Edward Everett.

Pormort.

Tyler Street.

1856. Auburn.

Comins.

Commodore Barry.

Lawrence.

Stoughton.

1857. Dwight.

Old Gibson.

Prescott.

Winthrop Street.

1858. Hillside.

1859. Cottage Place.

Franklin.

1859. Frederic W. Lincoln.
Hawes Hall. (Remodeled. Built 1823.)
1860. Everett.
1861. Elizabeth Peabody.
Harris.
William Cullen Bryant.
William Eustis.
1862. Florence Street.
Wendell Phillips.
1863. Germantown.
1865. Emerson.
1866. Bunker Hill.
1867. Cushman.
Jamaica Plain High.
Thomas Dwight.
Warren.
1868. Freeman.
Julia Ward Howe.
Norcross.
Wells.
1869. Drake.
Rice.
Shurtleff.
Wait.
1870. Aaron Davis.
Elbridge Smith.
George Bancroft.
Girls' High.
Sherwin.
Skinner.
Theodore Lyman.
Washington Street (Forest Hills).
1871. Capen.
Clinch.
Damon.
Fairmount.
Harvard.
Henry Grew.
1872. Atherton.
Chestnut Avenue.
Gaston.
Old Mather.

1872. Samuel Dexter. (Remodeled. Built 1800.)
1873. Tappan.
Thomas Gardner Annex.
1874. Bennett.
Dudley.
Frothingham.
Lowell.
Noble.
Samuel G. Howe.
1875. Hull.
Prince.
Robert Swan.
1876. John A. Andrew.
Richard C. Humphreys.
Polk Street.
1877. Asa Gray.
Charles Sumner.
Dixwell Street.
1879. Washington Allston.
1880. Cyrus Alger.
English High.
George Putnam.
Glenway.
Helen F. Burgess.
1882. Dillaway.
Howard Avenue.
Quincy Street.
1883. Benjamin Pope.
Harbor View Street.
1884. Hobart Street.
Hyde.
Joshua Bates.
Lucretia Crocker.
Savin Hill.
1885. Martin.
Winchell.
1886. Abram E. Cutter.
Bennett Branch.
1887. Elihu Greenwood.
Hugh O'Brien.
Minot.
1889. Thomas N. Hart.

1889. Washington Allston Annex.
1890. Horace Mann.
1891. Boston Clerical.
Charles C. Perkins.
Henry L. Pierce.
Plummer.
1892. B. F. Tweed.
Blackinton.
Bowditch.
Lyceum Hall.
Margaret Fuller.
Richard Olney.
William Wirt Warren.
Williams.
Wyman.
1893. Abby W. May.
Agassiz.
Mechanic Arts High.
1894. Choate Burnham.
Cudworth.
Oak Square.
1895. Albert Palmer.
Amos Webster.
Brighton High.
Christopher Gibson.
Hemenway.
Little Em'ly.
Robert Swan Addition.
Stephen M. Weld.
Weld.
William Brewster.
William H. Kent.
1896. Andrews.
Bowdoin.
Gilbert Stuart.
Howard Avenue Annex.
Lowell Annex.
Phineas Bates.
Prescott Annex.
Roger Clap.
1897. Benjamin Cushing.
Longfellow.

1897. Mary Hemenway.
Mary L. Brock.
Mayhew.
William Bacon.
1898. Frothingham Annex.
Glenway Annex.
Jamaica Plain High Addition.
Noble Annex.
Paul Revere.
William Brewster Annex.
1899. Benjamin Dean.
Bowditch Addition.
Francis Parkman.
Frederic A. Whitney.
Henry Vane.
1900. Jacob Foss. (Leased to American Legion.)
Phillips Brooks.
W. L. P. Boardman.
1901. Bigelow.
Chapman.
Copley.
Dorchester High for Girls.
Ira Allen.
Joseph H. Barnes.
Julia Ward Howe Annex.
Roger Wolcott.
South Boston High.
Trescott.
Winship.
1902. William Barton Rogers.
Savin Hill Addition.
Washington Allston Annex Addition.
1903. Hancock Annex.
John Marshall.
William E. Russell.
1904. Christopher Columbus.
Ellis Mendell.
Farragut.
Francis Parkman Addition.
Jefferson.
Oliver Hazard Perry.
Paul Jones.

1904. Plummer Addition.
Washington.
1905. James Otis.
John Boyle O'Reilly.
John Greenleaf Whittier.
Mather.
Oliver Wendell Holmes.
Samuel W. Mason.
1906. Dearborn.
Joseph Tuckerman.
Nathaniel Hawthorne.
Sarah J. Baker.
Thomas Gardner.
William E. Endicott.
1907. Charlestown High.
Common Building (Teachers College-Girls Latin
Gymnasium).
Girls Latin.
Hobart Street Addition.
Patrick A. Collins.
Quincy Addition.
Teachers College.
1908. Francis Parkman Addition.
Mechanic Arts High Addition.
Plummer Addition.
1909. Edward Everett.
John Cheverus.
Longfellow Addition.
Nathan Hale.
1910. Blackinton Addition.
Dorchester High for Girls Addition.
Girls' High Addition.
Girls' High Colony.
Peter Faneuil.
Samuel Adams.
Trescott Addition.
William Lloyd Garrison.
Wyman Addition.
1911. Abraham Lincoln.
Charles Bulfinch.
Edmund P. Tileston.
James A. McDonald.

1911. John Lothrop Motley.
John Winthrop.
Lafayette.
1912. Benedict Fenwick.
Boston Clerical Addition.
George T. Angell.
Germantown Addition.
Girls' High Addition.
Lewis.
Ulysses S. Grant.
William Bradford.
1913. Andrews Addition.
Brighton High Addition.
Ellen H. Richards.
English High Addition.
High School of Practical Arts.
John D. Philbrick.
John J. Williams.
Martha A. Baker.
Mozart.
Samuel Adams Addition.
1914. Edmund P. Tileston Addition.
Everett Addition.
Everett Street.
Florence Nightingale.
George Frisbie Hoar.
High School of Practical Arts Annex.
Mary Lyon.
Philip H. Sheridan.
Wells Annex.
1915. High School of Commerce.
Quincy E. Dickerman.
1916. William Blackstone.
1917. Boston Trade.
Dearborn Addition.
High School of Practical Arts Addition.
James Otis Addition.
Samuel W. Mason Addition.
1918. Emily A. Fifield.
Rochambeau.
William Lloyd Garrison Addition.
1919. Audubon.

1919. Michelangelo.
Pauline Agassiz Shaw.
Robert Gould Shaw.
Sarah Greenwood.
1920. William Barton Rogers Addition.
Pauline Agassiz Shaw Addition.
1921. Curtis Guild.
Dearborn Annex.
Michelangelo Addition.
1922. Daniel Webster.
Frank V. Thompson.
Henry L. Higginson.
Lowell Mason.
Public Latin.
1923. Administration Building (15 Beacon Street).
John Lothrop Motley Addition.
Lucy Stone.
Oak Square Addition.
Theodore Roosevelt.
Thomas Francis Leen.
Trade School for Girls.
William McKinley.
1924. Alexander Hamilton.
Andrew Jackson.
Charles Logue.
Dante Alighieri.
Edwin P. Seaver.
Julia Ward Howe Addition.
Ralph Waldo Emerson.
Theodore Parker.
Theodore Roosevelt Addition.
Thomas Gardner Addition.
Winship Addition.
1925. Beethoven.
Bennett. (Remodeled.)
Champlain.
Charles Logue Addition.
Dorchester High for Boys.
Frank V. Thompson Addition.
George T. Angell Addition.
Grover Cleveland.
James A. Garfield.

1925. Morrison House.
Robert Treat Paine.
Washington Addition.
Washington Irving.
1926. Donald McKay.
East Boston High.
Henry Vane Addition.
Jamaica Plain High Addition.
James J. Storrow.
Lewis Addition.
Memorial High (Girls).
Michael J. Perkins.
Oliver Holden.
Spencer Memorial Annex.
South Boston High Addition.
1927. Alexander Hamilton Addition.
Harriet A. Baldwin.
Randall G. Morris.
Robert Gould Shaw Addition.
Thomas J. Kenny.
Washington Irving Addition.
1928. Continuation (Boys).
Grover Cleveland Addition.
Henry Abrahams.
Hyde Park High.
Memorial High (Boys).
Patrick F. Lyndon.
Washington Addition.
William Ellery Channing.

**BOSTON SCHOOL BUILDINGS AS OF OCTOBER, 1928,
ARRANGED ALPHABETICALLY**

- 1870. Aaron Davis.
- 1893. Abby W. May.
- 1911. Abraham Lincoln.
- 1886. Abram E. Cutter.
- 1893. Agassiz.
- 1895. Albert Palmer.
- 1924. Alexander Hamilton.
- 1927. Alexander Hamilton Addition.
- 1895. Amos Webster.
- 1924. Andrew Jackson.
- 1896. Andrews.
- 1913. Andrews Addition.
- 1877. Asa Gray.
- 1872. Atherton.
- 1856. Auburn.
- 1919. Audubon.
- 1849. Austin.
- 1925. Beethoven.
- 1912. Benedict Fenwick.
- 1897. Benjamin Cushing.
- 1899. Benjamin Dean.
- 1883. Benjamin Pope.
- 1874. Bennett.
- 1925. Bennett (Remodeled).
- 1886. Bennett Branch.
- 1892. B. F. Tweed.
- 1901. Bigelow.
- 1892. Blackinton.
- 1910. Blackinton Addition.
- 1891. Boston Clerical.
- 1912. Boston Clerical Addition.
- 1917. Boston Trade.
- 1892. Bowditch.
- 1899. Bowditch Addition.
- 1896. Bowdoin.
- 1895. Brighton High.
- 1913. Brighton High Addition.
- 1843. Brimmer.
- 1866. Bunker Hill.

- 1871. Capen.
- 1925. Champlain.
- 1901. Chapman.
- 1911. Charles Bulfinch.
- 1891. Charles C. Perkins.
- 1847. Charles E. Daniels.
- 1924. Charles Logue.
- 1925. Charles Logue Addition.
- 1877. Charles Sumner.
- 1907. Charlestown High.
- 1872. Chestnut Avenue.
- 1894. Choate Burnham.
- 1904. Christopher Columbus.
- 1895. Christopher Gibson.
- 1871. Clinch.
- 1856. Comins.
- 1856. Commodore Barry.
- 1907. Common Building (Teachers College-Girls Latin
Gymnasium).
- 1928. Continuation (Boys).
- 1901. Copley.
- 1859. Cottage Place.
- 1894. Cudworth.
- 1921. Curtis Guild.
- 1867. Cushman.
- 1880. Cyrus Alger.
- 1871. Damon.
- 1922. Daniel Webster.
- 1924. Dante Alighieri.
- 1906. Dearborn.
- 1917. Dearborn Addition.
- 1921. Dearborn Annex.
- 1882. Dillaway.
- 1877. Dixwell Street.
- 1926. Donald McKay.
- 1852. Dorchester Avenue.
- 1925. Dorchester High for Boys.
- 1901. Dorchester High for Girls.
- 1910. Dorchester High for Girls Addition.
- 1869. Drake.
- 1874. Dudley.
- 1857. Dwight.

- 1926. East Boston High.
- 1911. Edmund P. Tileston.
- 1914. Edmund P. Tileston Addition.
- 1909. Edward Everett.
- 1924. Edwin P. Seaver.
- 1870. Elbridge Smith.
- 1887. Elihu Greenwood.
- 1838. Eliot.
- 1861. Elizabeth Peabody.
- 1913. Ellen H. Richards.
- 1904. Ellis Mendell.
- 1865. Emerson.
- 1918. Emily A. Fifield.
- 1880. English High.
- 1913. English High Addition.
- 1860. Everett.
- 1914. Everett Addition.
- 1914. Everett Street.
- 1871. Fairmount.
- 1904. Farragut.
- 1914. Florence Nightingale.
- 1862. Florence Street.
- 1851. Frances E. Willard.
- 1899. Francis Parkman.
- 1904. Francis Parkman Addition.
- 1908. Francis Parkman Addition.
- 1922. Frank V. Thompson.
- 1925. Frank V. Thompson Addition.
- 1859. Franklin.
- 1899. Frederic A. Whitney.
- 1859. Frederic W. Lincoln.
- 1868. Freeman.
- 1874. Frothingham.
- 1898. Frothingham Annex.
- 1872. Gaston.
- 1870. George Bancroft.
- 1914. George Frisbie Hoar.
- 1880. George Putnam.
- 1912. George T. Angell.
- 1925. George T. Angell Addition.
- 1863. Germantown.
- 1912. Germantown Addition.

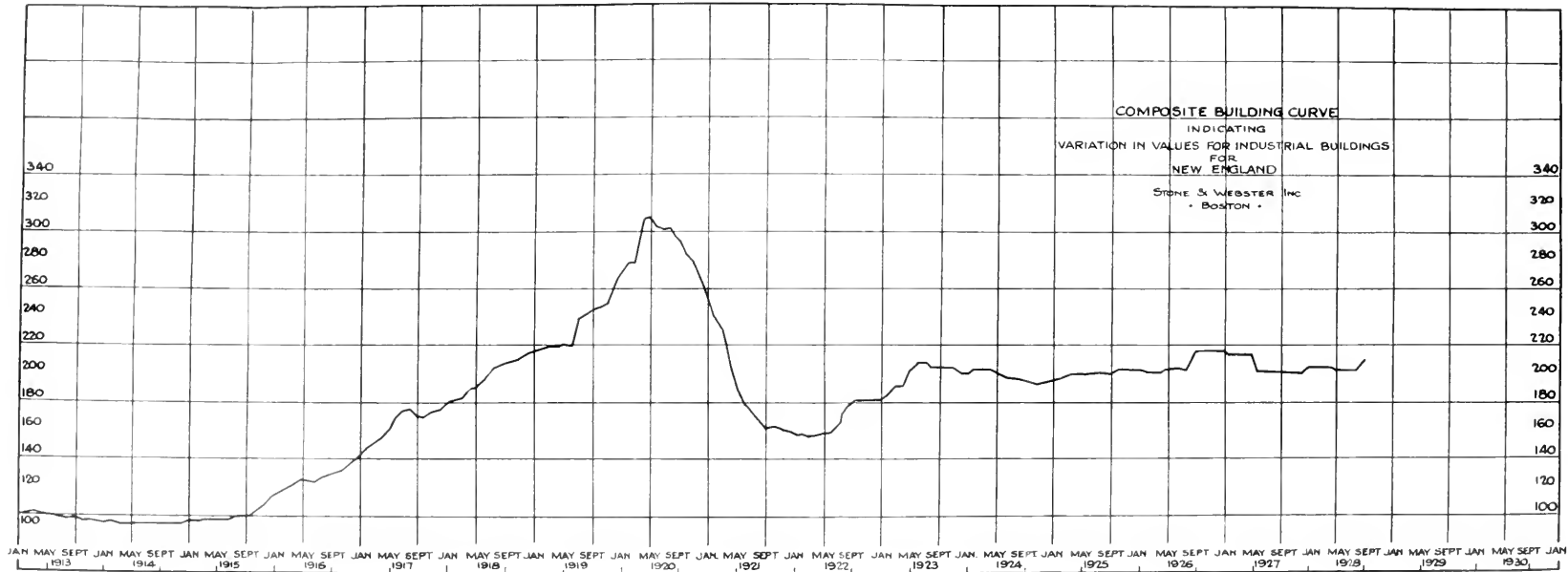
- 1896. Gilbert Stuart.
- 1870. Girls' High.
- 1910. Girls' High Addition.
- 1912. Girls' High Addition.
- 1910. Girls' High Colony (620 Massachusetts Avenue).
- 1907. Girls Latin.
- 1880. Glenway.
- 1898. Glenway Annex.
- 1852. Grant.
- 1925. Grover Cleveland.
- 1928. Grover Cleveland Addition.
- 1847. Hancock.
- 1903. Hancock Annex.
- 1883. Harbor View Street.
- 1927. Harriet A. Baldwin.
- 1861. Harris.
- 1871. Harvard.
- 1848. Harvard (Thomas Gardner).
- 1823. Hawes Hall.
- 1859. Hawes Hall (Remodeled).
- 1880. Helen F. Burgess.
- 1895. Hemenway.
- 1928. Henry Abrahams.
- 1871. Henry Crew.
- 1922. Henry L. Higginson.
- 1891. Henry L. Pierce.
- 1899. Henry Vane.
- 1926. Henry Vane Addition.
- 1915. High School of Commerce.
- 1913. High School of Practical Arts.
- 1914. High School of Practical Arts Annex.
- 1917. High School of Practical Arts Addition.
- 1858. Hillside.
- 1884. Hobart Street.
- 1907. Hobart Street Addition.
- 1890. Horace Mann.
- 1882. Howard Avenue.
- 1896. Howard Avenue Annex.
- 1887. Hugh O'Brien.
- 1875. Hull.
- 1884. Hyde.
- 1928. Hyde Park High.

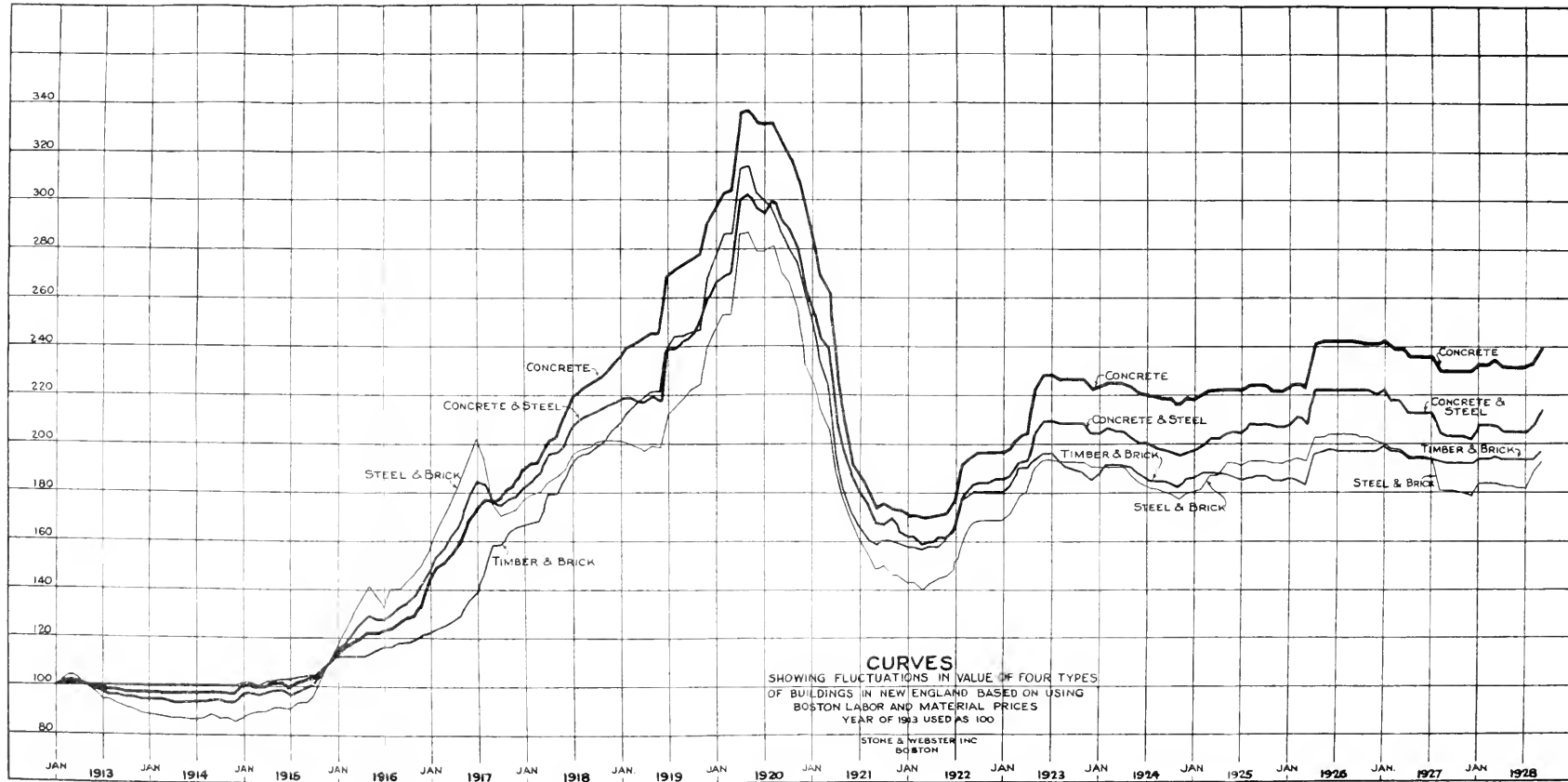
- 1901. Ira Allen.
- 1900. Jacob Foss. (Leased to American Legion.)
- 1867. Jamaica Plain High.
- 1898. Jamaica Plain High Addition.
- 1926. Jamaica Plain High Addition.
- 1925. James A. Garfield.
- 1911. James A. McDonald.
- 1926. James J. Storrow.
- 1905. James Otis.
- 1917. James Otis Addition.
- 1904. Jefferson.
- 1876. John A. Andrew.
- 1905. John Boyle O'Reilly.
- 1909. John Cheverus.
- 1913. John D. Philbrick.
- 1905. John Greenleaf Whittier.
- 1913. John J. Williams.
- 1911. John Lothrop Motley.
- 1923. John Lothrop Motley Addition.
- 1903. John Marshall.
- 1911. John Winthrop.
- 1901. Joseph H. Barnes.
- 1906. Joseph Tuckerman.
- 1884. Joshua Bates.
- 1868. Julia Ward Howe.
- 1901. Julia Ward Howe Annex.
- 1924. Julia Ward Howe Addition.
- 1911. Lafayette.
- 1856. Lawrence.
- 1912. Lewis.
- 1926. Lewis Addition.
- 1895. Little Em'ly.
- 1897. Longfellow.
- 1909. Longfellow Addition.
- 1846. Louis Prang.
- 1845. Louisa May Alcott.
- 1874. Lowell.
- 1896. Lowell Annex.
- 1922. Lowell Mason.
- 1884. Lucretia Crocker.
- 1923. Lucy Stone.
- 1892. Lyceum Hall.

- 1892. Margaret Fuller.
- 1913. Martha A. Baker.
- 1885. Martin.
- 1897. Mary Hemenway.
- 1897. Mary L. Brock.
- 1914. Mary Lyon.
- 1905. Mather.
- 1897. Mayhew.
- 1893. Mechanic Arts High.
- 1908. Mechanic Arts High Addition.
- 1928. Memorial High (Boys).
- 1926. Memorial High (Girls).
- 1926. Michael J. Perkins.
- 1919. Michelangelo.
- 1921. Michelangelo Addition.
- 1887. Minot.
- 1925. Morrison House.
- 1913. Mozart.
- 1847. Mt. Pleasant Avenue.
- 1847. Nahum Chapin.
- 1909. Nathan Hale.
- 1906. Nathaniel Hawthorne.
- 1874. Noble.
- 1898. Noble Annex.
- 1868. Norcross.
- 1894. Oak Square.
- 1923. Oak Square Addition.
- 1849. Old Agassiz.
- 1855. Old Baker Street.
- 1855. Old Edward Everett.
- 1857. Old Gibson.
- 1872. Old Mather.
- 1847. Old Thornton Street.
- 1904. Oliver Hazard Perry.
- 1926. Oliver Holden.
- 1905. Oliver Wendell Holmes.
- 1842. Parkman.
- 1907. Patrick A. Collins.
- 1928. Patrick F. Lyndon.
- 1904. Paul Jones.
- 1898. Paul Revere.
- 1919. Pauline Agassiz Shaw.

- 1920. Pauline Agassiz Shaw Addition.
- 1910. Peter Faneuil.
- 1914. Philip H. Sheridan.
- 1900. Phillips Brooks.
- 1896. Phineas Bates.
- 1850. Pierpont.
- 1891. Plummer.
- 1904. Plummer Addition.
- 1908. Plummer Addition.
- 1876. Polk Street.
- 1855. Pormort.
- 1857. Prescott.
- 1896. Prescott Annex.
- 1875. Prince.
- 1922. Public Latin.
- 1847. Quincy.
- 1907. Quincy Addition.
- 1915. Quincy E. Dickerman.
- 1882. Quincy Street.
- 1924. Ralph Waldo Emerson.
- 1927. Randall G. Morris.
- 1869. Rice.
- 1876. Richard C. Humphreys.
- 1892. Richard Olney.
- 1919. Robert Gould Shaw.
- 1927. Robert Gould Shaw Addition.
- 1875. Robert Swan.
- 1895. Robert Swan Addition.
- 1925. Robert Treat Paine.
- 1918. Rochambeau.
- 1896. Roger Clap.
- 1901. Roger Wolcott.
- 1910. Samuel Adams.
- 1913. Samuel Adams Addition.
- 1800. Samuel Dexter.
- 1872. Samuel Dexter (Remodeled).
- 1874. Samuel G. Howe.
- 1905. Samuel W. Mason.
- 1917. Samuel W. Mason Addition.
- 1919. Sarah Greenwood.
- 1906. Sarah J. Baker.
- 1884. Savin Hill.

- 1902. Savin Hill Addition.
- 1923. School Administration Building (15 Beacon Street).
- 1824. Sharp (not in use).
- 1870. Sherwin.
- 1869. Shurtleff.
- 1840. Simonds.
- 1870. Skinner.
- 1901. South Boston High.
- 1926. South Boston High Addition.
- 1926. Spencer Memorial Annex.
- 1895. Stephen M. Weld.
- 1856. Stoughton.
- 1873. Tappan.
- 1907. Teachers College.
- 1870. Theodore Lyman.
- 1924. Theodore Parker.
- 1923. Theodore Roosevelt.
- 1924. Theodore Roosevelt Addition.
- 1867. Thomas Dwight.
- 1923. Thomas Francis Leen.
- 1906. Thomas Gardner.
- 1873. Thomas Gardner Annex.
- 1924. Thomas Gardner Addition.
- 1926. Thomas J. Kenny.
- 1889. Thomas N. Hart.
- 1845. Thomas Starr King.
- 1923. Trade School for Girls.
- 1901. Trescott.
- 1910. Trescott Addition.
- 1855. Tyler Street.
- 1912. Ulysses S. Grant.
- 1869. Wait.
- 1867. Warren.
- 1904. Washington.
- 1925. Washington Addition.
- 1928. Washington Addition.
- 1879. Washington Allston.
- 1889. Washington Allston Annex.
- 1902. Washington Allston Annex Addition.
- 1925. Washington Irving.
- 1927. Washington Irving Addition.





- 1870. Washington Street (Forest Hills).
- 1895. Weld.
- 1868. Wells.
- 1914. Wells Annex.
- 1862. Wendell Phillips.
- 1897. William Bacon.
- 1902. William Barton Rogers.
- 1920. William Barton Rogers Addition.
- 1916. William Blackstone.
- 1912. William Bradford.
- 1895. William Brewster.
- 1898. William Brewster Annex.
- 1861. William Cullen Bryant.
- 1906. William E. Endicott.
- 1928. William Ellery Channing.
- 1903. William E. Russell.
- 1861. William Eustis.
- 1895. William H. Kent.
- 1910. William Lloyd Garrison.
- 1918. William Lloyd Garrison Addition.
- 1923. William McKinley.
- 1892. William Wirt Warren.
- 1892. Williams.
- 1885. Winchell.
- 1901. Winship.
- 1924. Winship Addition.
- 1857. Winthrop Street.
- 1900. W. L. P. Boardman.
- 1892. Wyman.
- 1910. Wyman Addition.

PART II

SPECIAL STUDIES RELATING TO THE
BOSTON SCHOOL SYSTEM

FOREWORD

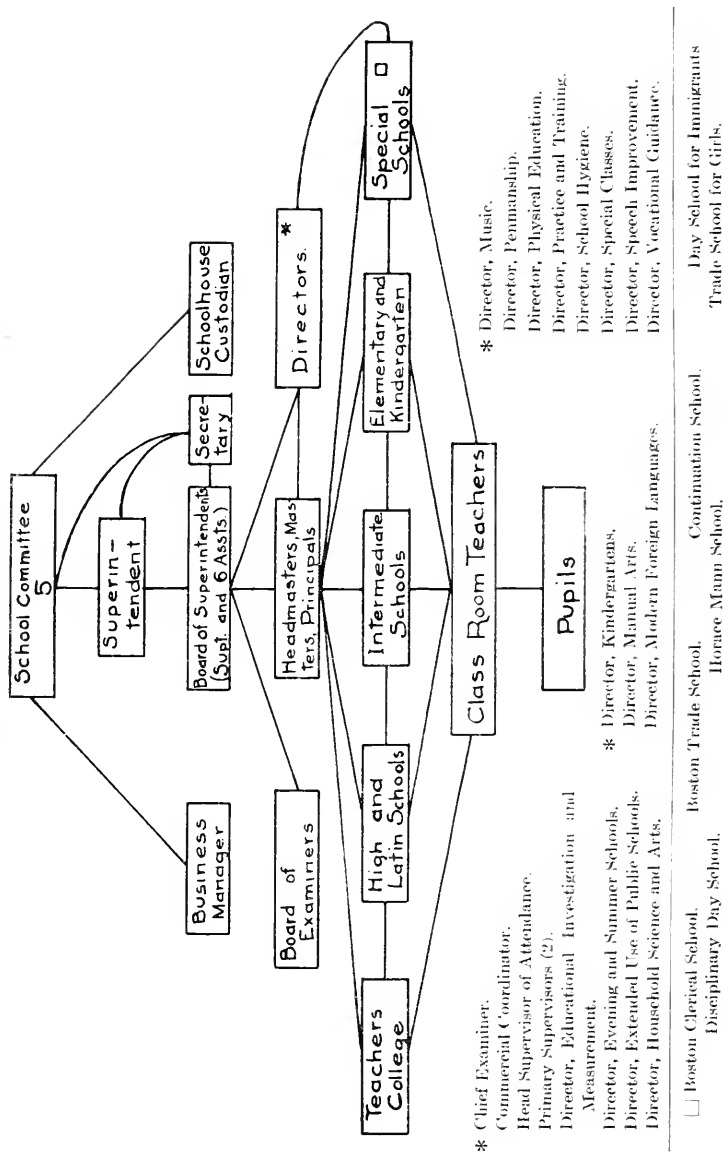
The following studies, relating to many different phases of the school system, have a definite relationship to the financial and educational aspects thereof. It is the purpose of this part of the report to present the results of these studies and investigations in order to provide a basis for obtaining a rather comprehensive view of the extent and complexity of the school system.

It is only by investigation, study and analysis of all related factors that real progress can be made and policies established on the basis of economy and sound educational procedure.

Each section in Part II is closely related to a specific report in Part I. An examination of these data will provide an adequate basis for reviewing many of the facts upon which recommendations have been based. In many instances also data have been presented for the purpose of providing school officials with information which is not at present organized in such a form as to be easily available and immediately useful.

CHART 5

BOSTON PUBLIC SCHOOLS, ORGANIZATION CHART, OCTOBER, 1928 (SURVEY COMMITTEE, BOSTON PUBLIC SCHOOLS, 1929)



SECTION I

PERSONNEL GROWTH OF SPECIAL DEPARTMENTS*

As the appended table shows, there has been no increase in the number of assistant superintendents, whose major functions have been supervision. In fact, this Board now has the same number of members as it had fifty years ago. However, the number of directors and their assistants has increased greatly during the last twenty-five years. It should be noted that these numbers have been steadily increasing at a much higher rate than the pupil membership of the public schools and with added acceleration during the last five years. A part of this increase, no doubt, is due to the general expansion of the school system.

There is another cause also worthy of comment. Once a department is organized as a part of the school system it tends to expand in personnel and budget allotment. With its growth in personnel and in the size of its budget, it is given even greater independence and authority when its budget allotment is fixed by legislative act.

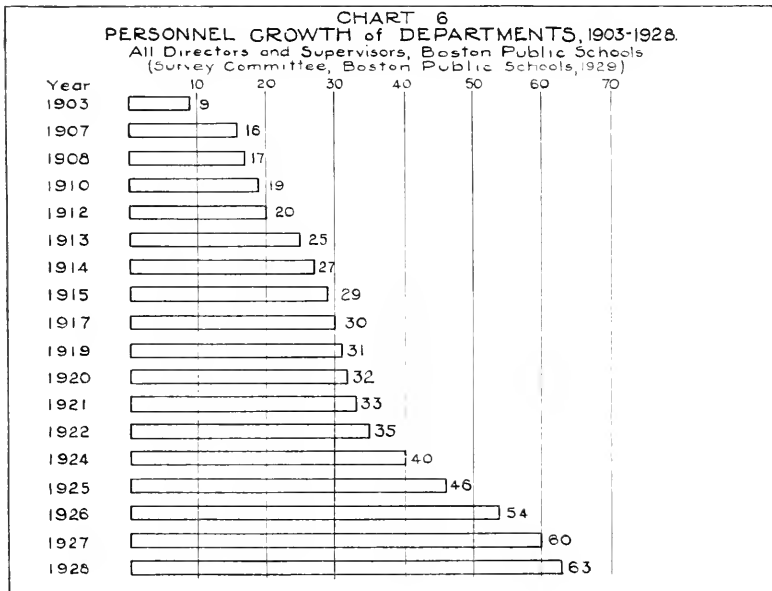
In so far as the work is concerned, it is important that the director consider his department vital to the welfare of school children. However, a department should not invade the domain of other equally essential parts of the school curriculum.

It should be noted also that many of the special departments deal with subjects which, in terms of time allotment and diploma credit, are considered minor as compared with such major parts of the curriculum as English, geography, mathematics, etc.

The question of division of authority is an important one. If there are an unduly large number of departments functioning directly in the city schools there is likelihood that directors and their assistants, working as they do in all schools, will regard their work as more significant than that of the individual school. Such a policy, if carried too far, detracts from the administrative unity which should prevail in a good organization and at the same time tends to minimize the value of the individual principal as a supervisor in his own school.

* See Part I, page 116.

The Survey Committee repeats here the principle expressed in another part of the report: namely, the problem for the school authorities is to guard against undue expansion, to the end that special departments shall be kept in due proportion to other parts of the school system.



[Table with Chart 6]
Personnel Growth of Departments

Year.	Director.	Associate Director.	First Assistant Director.	Assistant Director.	Total.	Supervisor.	Assistant Supervisor.	Grand Total.	Supervisor of Attendance.	Assistants (Manual Arts, Music).	School Physicians.	School Nurses.	Vocational Guidance Staff.	Special Class Teachers.
1903.	5				6			6	20					6
1904.	5			4	6			6	20					6
1905.	5			4	6			6	20					6
1906.	5			4	6			6	20					6
1907.	6			4	13	3		16	22			29		6
1908.	6			7	13	4		17	22			34		6
1909.	6			7	13	4		17	21			34		6
1910.	6			8	14	4		19	21			34		6
1911.	6			8	13	5	1	19	21			33		6
1912.	7		1	12	16	4		20	22			33		14
1913.	7		1	11	20	5		25	21			35		26
1914.	6	1	1	11	22	5		27	21			34		29
1915.	11		1	12	24	5		29	23			38		38
1916.	11		1	12	25	4		30	23		41	38		45
1917.	11		1	13	26	4		31	23		43	37		51
1918.	11	1	1	12	26	4		30	23		43	37	2	63
1919.	12			11	26	5		31	23		45	42	2	68
1920.	14		3	11	28	4		32	24		46	47	4	72
1921.	13		3	11	27	6		33	25		47	47	4	73
1922.	13		2	12	28	7		35	28		49	51	7	77
1923.	14	1	2	11	28	7		35	28		51	51	7	83
1924.	15	1	1	15	33	7		40	28		53	52	6	85
1925.	15	1	2	20	38	8		46	29		52	52	6	92
1926.	15	2	2	21	40	14		54	28		48	52	9	99
1927.	16	2	2	24	44	13	3	60	31		51	55	13	108
1928.	16	2	2	24	44	16	3	63	31		57	57	15	115

SECTION II

APPROPRIATIONS OF THE SCHOOL COMMITTEE *

City Valuation for Tax Purposes

The appropriations for school purposes in the City of Boston are based upon the average valuation of the city for the previous three years; *i. e.*, appropriations for the financial year, 1928, depend upon the average valuation for the three years, 1925, 1926, 1927. These average valuations for the previous three years are used in the table of Valuation of the City of Boston.

In all cities of this country, the chief source of revenue from which all public payments are met is the tax levy based largely upon real property, and to a far smaller extent upon personal property. With the introduction of the State Income Tax, personal property has largely disappeared as a basis for local taxation; part of the State Income Tax from personal property is returned to the City Treasury.

The tax levy is closely related to the evaluation of the property within the city by the Board of Assessors. This board annually compiles a total valuation for the city. The school budget is based upon an average of the last three annual valuations compiled by this board. This table of average valuations is an important item to the School Committee and to any other city department whose budget is directly dependent upon tax income.

This average valuation (shown in Chart 7) has steadily increased except in those years which immediately followed the introduction of the State Income Tax which removed personal property from local assessment. This exemption adversely affected the average valuation for the years 1918, 1919, 1920, 1921, 1922. Since then the growth has been continued at a somewhat increased rate faster than the growth of school membership and much faster than the growth of Boston's population. As a consequence there has been a corresponding increase in the amounts assigned to the School Committee.

22-year increase in population (1905-1927)	33.2%
22-year increase in valuation (1906-1928)	53.1%
22-year increase in public school pupil membership (1905-1927)	40.3%

* See Part I, pages 114-122, General Statement Relating to Increased School Expenditures During the Period 1916-1928.

Most of the school budget (all of it under the School Committee) is fixed by Acts of the Legislature of the Commonwealth of Massachusetts at a definite sum on each thousand dollars of the valuation of the City of Boston.

Financial Year 1928.		Per Cent of Total.
For General School Purposes	\$6 94	84.0%
For Repairs and Alterations	91	11.0%
For Physical Education	15	1.8%
For School Physicians and Nurses	11	1.3%
For Extended Use of Schools	04	.5%
For Pensions	05	.6%
For Americanization	03	.4%
For Vocational Guidance	03	.4%
	<u>\$8 26</u>	<u>100.0%</u>

Digest of Acts of the Legislature Showing Appropriating and Expending Power for Lands, Plans and Construction of School Buildings from 1919-20 to 1928 ¹

Acts of the Legislature.	Tax Limits Per \$1,000.	Appropriation Limits.	How Raised by Taxation and Years Involved.*
Chapter 206 of the Special Acts of 1919.	\$0 65	\$0 65	In full or as required for year ending on January 31, 1920.
Chapter 524 of the Acts of 1920.	\$1 63	\$1 63	In full or as required for years ending on January 31, 1922, and January 31, 1923, respectively.
Chapter 488 of the Acts of 1923.	\$2 33	Not to exceed \$3,500,000 for years ending on January 31, 1924, and on January 31, 1925, respectively.	As required based on estimated expenditures for each year beginning with the year ending on January 31, 1924.
Chapter 327 of the Acts of 1925.	\$1 77	Not to exceed \$3,000,000 for year ending on December 31, 1925.	One-half of \$3,000,000 to be raised in 1925 and the remaining one-half as required.
Chapter 314 of the Acts of 1926.	\$2 25 and \$1 68	Not to exceed \$4,000,000 for year ending on December 31, 1926 — \$3,000,000 for year ending on December 31, 1927 — \$3,000,000 for year ending on December 31, 1928.	Not less than \$1,000,000 and not more than \$1,500,000 for year ending on December 31, 1926 — not less than \$3,500,000 and not more than \$4,000,000 for year ending on December 31, 1927 — not less than \$3,000,000 and not more than \$3,500,000 for year ending on December 31, 1928, and in year ending on December 31, 1929, the balance of the sums not already raised by taxation.

* Prior to 1925 the financial year period covered from February first of one year to January thirty-first of the following year. (For details see Business Manager's Report for the year 1925.)

N. B.— Under the provisions of Chapter 314 of the Acts of 1926 for the years succeeding 1928 there is but \$0.68 per \$1,000 of the valuation on which appropriations are based, available for lands, plans and construction of school buildings. Under existing conditions \$0.68 per \$1,000 provides approximately \$1,279,000. This sum will not be sufficient to carry the cost of future building programs.

¹ From School Document No. 1, 1928 — Annual Report of Business Manager, 1927.

* Appropriating Power for Maintenance of the School System

The following table shows the growth in appropriating power per thousand dollars (exclusive of lands, plans and construction of school buildings) of the valuation on which appropriations are based for the fifteen-year period, beginning with 1916-17 and ending with 1930.

Financial Year.	1 General School Purposes.	2 Alteration and Repair of School Buildings.	3 Physical Education.	4 School Physicians and Nurses.	5 Extended Use of the Public Schools.	6 Pensions to Teachers.	7 Totals Allowed per \$1,000 of the Valuation.	8 Average Valuation for Three Years, Less Amounts on Which Appropriations are Based.	9 Total Amount Provided (Column 7 Applied to Column 8).
1 1916-17	\$3 40	\$0 35	\$0 04	\$0 02	\$0 02	\$0 07	\$3 90	\$1,538,020,714 00	\$5,998,280 78
2 1917-18	3 40	35	04	02	02	07	3 90	1,568,290,365 00	6,116,332 42
3 1918-19	3 67	35	04	02	02	07	4 17	1,541,597,610 00	6,428,462 03
4 1919-20	4 15	35	08	06	02	07	4 73	1,518,938,942 00	7,184,581 19
5 1920-21	5 41	84	10	08	02	07	6 52	1,490,343,142 00	9,717,037 29
6 1921-22	6 34	84	11	09	03	07	7 48	1,526,365,955 00	11,417,217 34
7 1922-23	6 34	84	11	09	03	07	7 48	1,557,388,410 00	11,649,265 31
8 1923-24	6 34	91	11	09	03	07	7 55	1,606,575,807 00	12,129,647 34
9 1924-25	6 34	91	11	09	03	07	7 55	1,651,200,431 88	12,466,563 25
10 1925	6 34	91	11	09	03	07	7 55	1,720,250,701 60	12,987,892 79
11 1926	6 90	91	15	11	04	07	8 18	1,780,945,466 16	14,568,133 91
12 1927	6 98	91	15	11	04	07	8 26	1,841,057,566 16	15,207,135 50
13 1928	7 00	91	15	11	04	05	8 26	1,882,009,566 67	15,545,399 02
14 1929	7 02	91	15	11	04	05	8 28	—	—
15 1930	7 03	91	15	11	04	05	8 29	—	—

NOTES.—a. The amounts per \$1,000 for Americanization and Vocational Guidance are included in this table under the item "General School Purposes."

b. The above figures are based on statutory limitations in effect June 1, 1926.

c. In addition to the appropriating power per \$1,000 of the valuation on which appropriations are based, the School Committee is further authorized to appropriate each year the estimated income, if any, and the unexpended balances of the preceding financial year.

d. Pensions to teachers appropriation covers pensions to those teachers retired before the establishment of the Boston Retirement System and to future retirements of teachers who did not become members of such system.

e. Prior to the year 1925 the period of the financial year covered twelve months, from February first of one year to January thirty-first of the following year. In 1925 the financial year period was changed to the calendar year period. (For details see Business Manager's report for the year 1925.)

* From School Document No. 1, 1928—Annual Report of Business Manager, 1927.

Boston Public School Funds ‡
Money Available for Special Uses by Legislative Enactment

Year.	General School Purposes.		Physical Education.		School Physicians and Nurses.†	
	Rate per \$1,000.	Amount.	Rate per \$1,000.	Amount.	Rate per \$1,000.	Amount.
1916.....	* \$3 40	\$5,229,270 43	\$0.04	\$61,520 83	\$0.02	\$30,760 41
1917.....	* 3 40	5,332,187 24	.04	62,731 61	.02	31,365 81
1918.....	* 3 67	5,657,663 23	.04	61,663 90	.02	30,831 95
1919.....	4 11	6,242,839 05	.08	121,515 11	.06	91,136 34
1920.....	5 37	8,003,142 68	.10	149,034 31	.08	119,227 45
1921.....	6 30	9,616,105 51	.11	167,900 25	.09	137,372 94
1922.....	6 30	9,811,546 98	.11	171,312 72	.09	140,164 96
1923.....	6 30	10,121,427 58	.11	176,723 34	.09	144,391 82
1924.....	6 30	10,402,562 72	.11	181,632 04	.09	148,608 03
1925.....	6 30	10,837,579 42	.11	189,227 58	.09	154,822 56
1926.....	6 84	12,181,666 99	.12	213,713 45	.10	178,094 55
1927.....	6 92	12,740,118 36	.15	276,158 63	.11	202,516 33
1928.....	6 94	13,061,146 39	.15	282,301 43	.11	207,021 05
1929.....	6 96	13,288,416 80	.15	286,388 30	.11	210,018 08
Increase 1916-1929.....	104.7%	154.1%	275.0%	365.5%	450.0%	582.8%
Increase 1920-1929.....	29.6%	66.0%	50.0%	92.2%	37.5%	76.2%

† Nurses only, 1916-1918.

* Includes \$0.25 for increased salaries.

‡ See Part I, page 128, Legislation Relating to School Appropriations.

Boston Public School Funds
Money Available for Special Uses by Legislative Enactment

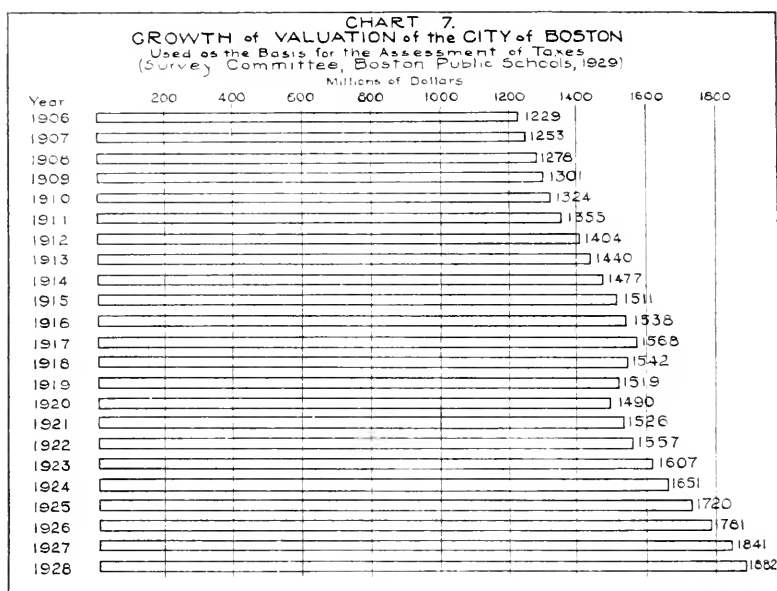
Year.	Extended Use.		Pensions.		Americanization.		Vocational Guidance.	
	Rate per \$1,000.	Amount.	Rate per \$1,000.	Amount.	Rate per \$1,000.	Amount.	Rate per \$1,000.	Amount.
1916	\$0 .02	\$30,760 41	\$0 .07	\$107,661 45	\$0 .02	\$30,378 78	\$0 .02	\$30,378 78
1917	.02	31,365 81	.07	109,780 32				
1918	.02	30,831 95	.07	107,911 83		\$30,378 78		\$30,378 78
1919	.02	30,378 78	.07	106,325 73		29,806 86	.02	29,806 86
1920	.02	29,806 86	.07	104,324 02		30,527 32	.02	30,527 32
1921	.03	45,790 98	.07	106,845 62		31,147 77	.02	31,147 77
1922	.03	46,721 65	.07	109,017 18		32,131 52	.02	32,131 52
1923	.03	48,197 27	.07	112,460 31		33,024 00	.02	33,024 00
1924	.03	49,536 01	.07	115,584 03		34,405 01	.02	34,405 01
1925	.03	51,607 52	.07	120,417 55		53,428 36	.03	53,428 36
1926	.04	71,237 82	.07	124,666 18		55,231 73	.03	55,231 73
1927	.04	73,642 30	.07	128,874 03		56,460 29	.03	56,460 29
1928	.04	75,280 38	.05	94,100 48		57,277 66	.03	57,277 66
1929	.04	76,370 21	.05	95,462 76				
Increase 1916-1929	100%	148.3%	28.6%*	11.3%*				
Increase 1920-1929	100%	156.2%	28.6%*	8.5%*	50%	92.2%	50%	92.2%

* Decrease.

Boston Public School Funds
Increases in Money Available by Legislative Enactment.

Maintenance Item.	1916-1929.		1920-1929.	
	Per Cent Increase in Rate Per \$1,000.	Per Cent Increase in Amount.	Per Cent Increase in Rate Per \$1,000.	Per Cent Increase in Amount.
General School Purposes	104.7	154.1	29.6	66.0
Physical Education	275.0	365.5	50.0	92.2
School Physicians and Nurses	450.0	582.8	37.5	76.2
Extended Use	100.0	148.3	100.0	156.2
Pensions	* 28.6	* 11.3	* 28.6	* 8.5
Americanization			50.0	92.2
Vocational Guidance			50.0	92.2

* Decrease.



[Table with Chart 7]

Valuation of the City of Boston, used as the Basis of Assessment for Schools and other Municipal Purposes

Year.	Population.	Valuation in \$1,000 Units.
1909	560,892	—
1905	595,380	—
1906	—	1,229,429
1907	—	1,252,810
1908	—	1,277,830
1909	—	1,300,864
1910	670,585	1,323,893
1911	—	1,355,417
1912	—	1,403,848
1913	—	1,440,255
1914	—	1,477,087
1915	745,439	1,510,759
1916	—	1,538,021
1917	—	1,568,290
1918	—	1,541,598
1919	—	1,518,939
1920	748,060	1,490,343
1921	—	1,526,366
1922	—	1,557,388
1923	—	1,606,576
1924	—	1,651,200
1925	779,620	1,720,251
1926	—	1,780,945
1927	793,146 (estimated)	1,841,058
1928	—	1,882,010

Table of Money Available for Boston Public Schools

1914=1928 (To the nearest dollar)

Year.	All Main- tenance Except Repairs and Alter- ations.	Repairs and Alter- ations.	New Schools.	Grand Total.
1914	\$5,383,019	\$516,981	\$443,126	\$6,343,126
1915	5,571,450	528,765	453,228	6,553,443
1916	5,650,693	538,307	461,406	6,650,406
1917	5,873,098	548,902	940,974	7,362,974
1918	6,323,441	539,559	924,959	7,787,959
1919	6,932,295	531,629	987,310	8,451,234
1920	8,845,436	1,013,433	2,667,714	12,526,583
1921	10,498,362	1,282,147	2,487,977	14,268,486
1922	10,741,232	1,308,206	2,538,543	14,587,981
1923	11,310,727	1,461,984	3,500,000	16,272,711
1924	11,891,546	1,502,592	3,500,000	16,894,138
1925	12,290,393	1,565,428	3,000,000	16,855,821
1926	14,005,274	1,620,660	4,000,000	19,625,934
1927	14,662,793	1,675,362	3,000,000	19,338,155
1928	15,094,762	1,712,629	3,000,000	19,807,391
Increase 1914=1928	180%	231%	577%	212%

A Study of Expenditures by the School Committee and the Schoolhouse Commission, 1916=1927

The Schoolhouse Commission in the City of Boston is the body that builds the schoolhouses and keeps them in repair; the School Committee is the body that controls the conduct of the schools and related activities of the city's public education. Chart 9 pictures graphically in a different manner than does Chart 2 the tendency of the Schoolhouse Commission to spend an increasing portion of the city's money devoted to schools.

The part of the school money used for the construction of new buildings and the repair of old ones has increased from 13.6 per cent in 1916 to 20.3 per cent in 1921, and to 31.8 per cent in 1926. Then comes a drop to 27.5 in 1927 and to 25.6 per cent in 1928, still over double the figure of 1916. In spite of the expansion of school curricula and facilities, of the steadily decreasing size of classes, and of the increase in salaries, the payments for new build-

ings and repair of old ones have grown more rapidly than the costs directly concerned with instruction.

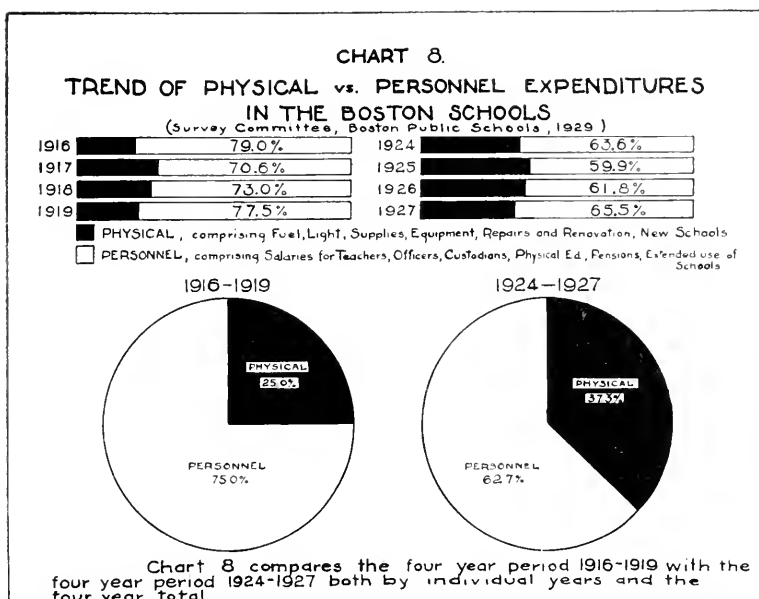
In Chart 8 the money expended for public education in the city of Boston is separated on another basis — the material side and the human side. On the material side, labelled in the chart "Physical," are the buildings and grounds, their repair and conditioning, fuel, light, textbooks, supplies, all the things that form a background for the pupil; on the human side, labelled in the chart "Personnel," are the men and women who compose the Boston School System — officers, teachers, custodians, physicians, nurses, and all others receiving salary payments authorized by the School Committee.

The bars at the top of the chart show this division for individual years, exhibiting a marked difference between the group 1916 to 1919 and the group 1924 to 1927. On the lower part of the chart are circle graphs which combine these four-year periods into unit results. The 1916-1919 "physical" expenditures of 25 per cent of the total had grown in 1924-1927 to 37.3 per cent of the total, an increase of practically one-half in the portion allotted to plant, repairs, etc.

The Survey Committee is of the opinion that such rapid increase in the cost of new construction and in the cost of repair and alteration of existing buildings cannot in major part be attributed to the increase in cost of labor and materials.

Much of the increase is due to lack of a forward-looking policy for new construction, lack of good business procedure and economical planning, carelessness in the supervision of new construction, and extravagance in the selection of materials as prescribed by the specifications.

The Survey Committee is convinced, from its analysis of costs in Boston and elsewhere, that material savings can be made on each new building erected without any sacrifice at all of usefulness or beauty. The present system of divided responsibility encourages waste and extravagance.



[Table with Chart 8]

School Money Expended for Physical and Personnel Items of the Boston School System

(Expressed in \$1,000 Units with Percentage for Each)

Year.	Physical Expense.		Personnel Expense.		Total Expense in \$1,000 Units.
	In \$1,000 Units.	Per Cent of Total.	In \$1,000 Units.	Per Cent of Total.	
1916..	1,365	21.0	5,121	79.0	6,486
1917..	2,174	29.4	5,228	70.6	7,402
1918..	1,995	27.0	5,400	73.0	7,395
1919..	1,789	22.5	6,168	77.5	7,957
1916-1919..	7,323	25.0	21,917	75.0	29,240
1924..	5,956	36.4	10,394	63.6	16,350
1925..	6,859	40.1	10,228	59.9	17,087
1926..	7,560	38.2	12,215	61.8	19,775
1927..	6,754	34.5	12,828	65.5	19,582
1924-1927..	27,129	37.3	45,665	62.7	72,794

Data for tables obtained from Summary of Expenditures, 1916-1927, submitted by the Business Manager of the Boston School Committee.

CHART 9
DIVISION OF MONEY SPENT
ON BOSTON SCHOOLS

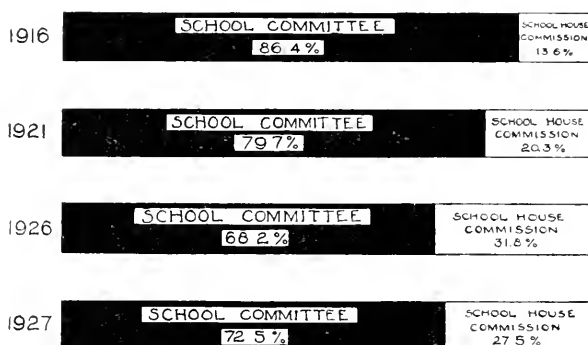


Chart 9 shows the percentages of the total expenses controlled by the School Committee and by the Schoolhouse Commission for the years 1916, 1921, 1926 and 1927

[Table with Chart 9]

**School Money Expended Through School Committee
and Schoolhouse Commission, 1916, 1921, 1926, 1927**

(Expressed in Units of \$1,000 with Percentage for Each)

Year.	School Committee.		Schoolhouse Commission.		Total Expended in \$1,000 Units.
	Expended in \$1,000 Units.	Per Cent of Total.	Expended in \$1,000 Units.	Per Cent of Total.	
1916.....	5,602	86.4	884	13.6	6,486
1921.....	10,214	79.7	2,605	20.3	12,819
1926.....	13,496	68.2	6,279	31.8	19,775
1927.....	14,204	72.5	5,378	27.5	19,582

Data for tables obtained from Summary of Expenditures, 1916-1927, submitted by the Business Manager of the Boston School Committee.

School Committee Appropriations, 1914-1928
For Maintenance (except Salaries for Instructors, Officers and Custodians)

Year.	Fuel and Light.	Supplies, Incidentals.	Physical Education.	Nurses and Physicians.	Pensions.	Extended Use.	Repairs and Alterations.
1914	\$218,000 00	\$375,137 93	\$82,046 70	\$32,041 75	\$81,191 88	\$44,165 56	\$473,126 18
1915	230,000 00	371,480 00	89,479 40	34,400 00	86,024 54	34,861 36	500,189 70
1916	217,428 14	276,441 91	83,704 00	62,582 57	117,802 25	34,256 12	481,105 17
1917	308,750 00	346,426 05	92,255 24	66,000 56	120,504 76	35,537 02	487,930 11
1918	478,020 44	343,500 18	94,060 95	67,144 38	116,489 07	33,479 98	575,059 16
1919	378,161 80	392,396 02	111,469 15	83,744 60	114,462 93	39,134 86	552,128 63
1920	444,190 50	482,419 21	149,034 31	114,930 33	111,711 22	29,806 86	941,433 33
1921	480,650 00	669,466 64	170,400 25	137,372 93	114,912 26	54,290 98	1,282,147 40
1922	466,536 00	649,161 18	175,612 72	140,164 96	115,973 82	54,221 65	1,308,206 26
1923	536,089 28	713,979 93	179,273 12	144,707 46	119,696 67	57,931 95	1,461,983 98
1924	480,472 50	865,204 20	188,279 78	154,860 26	121,519 63	59,912 84	1,502,592 39
1925	455,390 00	764,863 43	193,965 03	147,800 54	125,858 70	55,980 57	1,435,000 00
1926	454,260 00	879,320 87	282,257 46	185,453 21	130,666 18	73,619 50	1,620,660 37
1927	514,957 00	1,018,980 73	299,997 06	193,938 00	133,874 03	84,654 67	1,675,362 39
1928	521,865 00	1,099,485 84	311,219 62	206,406 00	98,600 48	84,778 87	1,712,628 71
Increase 1914-1928	139% $\frac{1}{2}$	193% $\frac{1}{2}$	279% $\frac{1}{2}$	543% $\frac{1}{2}$	21% $\frac{1}{2}$	92% $\frac{1}{2}$	262% $\frac{1}{2}$

School Committee Appropriations, 1914-1928
Departments of Manual Arts, Music, Household Science and Arts

Year.	Manual Arts.			Music.			Household Science and Arts.		
	Salaries.	Supplies.	Total.	Salaries.	Supplies.	Total.	Salaries.	Supplies.	Total.
1914	\$109,590 76	\$43,800 00	\$153,390 76	\$21,970 97	\$5,195 00	\$27,165 97	\$42,489 73	\$11,500 00	\$54,989 73
1915	97,526 16	44,500 00	142,026 16	24,413 60	4,925 00	29,338 60	95,574 90	8,750 00	104,324 90
1916	127,802 87	33,525 00	161,327 87	24,273 60	4,650 00	28,923 60	108,453 43	8,625 00	115,078 43
1917	136,586 55	48,374 95	184,961 50	24,769 47	3,215 00	27,984 47	109,863 70	13,000 00	122,863 70
1918	142,982 38	50,548 00	193,530 38	25,105 47	4,565 00	29,670 47	110,584 96	15,825 00	126,409 96
1919	189,539 65	50,548 00	240,087 65	27,995 47	12,572 00	40,567 47	130,951 90	8,900 00	139,851 90
1920	213,540 21	70,750 00	284,290 21	34,183 23	8,992 00	43,175 23	163,609 74	14,450 00	178,059 74
1921	249,326 81	82,800 00	332,126 81	36,821 12	21,680 00	58,501 12	213,376 94	15,150 00	228,526 94
1922	204,673 81	76,900 00	281,573 81	40,099 19	15,275 00	55,374 19	223,992 90	15,050 00	239,042 90
1923	280,395 56	86,805 00	367,200 56	40,692 35	17,325 00	58,017 35	229,298 08	14,490 00	243,788 08
1924	281,357 14	90,875 00	372,232 14	50,259 42	26,125 00	76,384 42	221,722 34	22,550 00	244,272 34
1925	286,302 12	105,000 00	391,302 12	56,342 03	16,045 00	72,387 03	237,305 26	24,700 00	261,905 26
1926	352,094 72	134,650 00	486,744 72	74,351 00	23,300 00	97,651 00	291,910 00	29,600 00	321,510 00
1927	397,408 53	151,630 00	549,038 53	94,727 00	28,350 00	123,077 00	320,844 00	36,950 00	357,794 00
1928.	434,727 13	136,300 00	571,027 13	102,610 06	29,025 00	131,635 06	315,082 00	29,550 00	344,632 00
Increase 1914-1928.....	297 ⁰⁰ / ₁₀₀	211 ⁰⁰ / ₁₀₀	272 ⁰⁰ / ₁₀₀	367 ⁰⁰ / ₁₀₀	459 ⁰⁰ / ₁₀₀	384 ⁰⁰ / ₁₀₀	624 ⁰⁰ / ₁₀₀	157 ⁰⁰ / ₁₀₀	526 ⁰⁰ / ₁₀₀

Summary of Expenditures for Maintenance and for Lands, Plans and Construction Beginning With the Year 1916-17¹

Items.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	1923-24.	1924-25.	1925.*	1926.	1927.	1928.	Increase 1928 Over 1916-17.	Per Cent of Increase, 1928 Over 1916-17.
Salaries of principals, teachers, members of the supervising staff and others†	\$4,334,492 97	\$4,418,639 17	\$4,567,760 79	\$5,177,760 84	\$6,643,665 03	\$7,763,333 65	\$8,297,755 32	\$8,393,835 85	\$8,843,667 91	\$8,710,424 31	\$10,422,971 10	\$10,904,956 41	\$11,252,524 10	\$6,918,031 13	160%
Salaries of administrative officers, supervisors of attendance clerks, stenographers, storekeepers and other employees	149,545 16	150,527 11	157,393 00	176,270 93	206,556 85	226,046 12	234,167 98	242,894 26	258,762 85	262,733 34	318,163 12	346,719 83	365,007 45	215,162 29	144%
Salaries of custodians and salaries of matrons	346,485 35	351,941 29	372,011 60	433,221 51	545,273 11	561,263 48	583,896 70	607,311 52	655,170 38	654,419 33	763,178 05	809,027 05	841,944 33	495,458 98	143%
Fuel and light, including electric current for power	204,919 26	303,380 54	460,447 45	317,171 47	564,168 36	492,867 29	382,789 94	535,399 89	422,322 73	376,659 90	415,192 89	445,754 27	455,622 81	250,703 55	122%
Supplies and incidentals	276,426 79	355,523 82	345,959 11	408,436 14	488,891 68	651,605 12	640,606 31	661,819 03	845,747 13	744,649 06	865,377 69	930,014 60	987,685 06	711,258 27	257%
Pensions to supervisors of attendance and pensions to custodians **	5,203 13	8,001 02	7,439 10	6,745 03	7,709 63	7,256 72	6,847 33	6,802 37	5,935 80	5,441 15	5,107 95	4,642 24	3,093 50	** 4,209 63	** 51%
Physical Education (salaries of teachers, members of the supervising staff and others, supplies and incidentals for day schools and playgrounds)	83,413 54	92,186 15	91,346 05	115,410 27	148,569 60	167,993 40	175,080 69	176,014 19	184,965 84	193,044 28	261,115 49	284,507 53	291,189 09	207,775 55	249%
School physicians and school nurses, including members of supervising staff	61,037 16	63,530 26	67,524 24	85,720 51	113,643 82	132,138 23	140,049 32	136,557 54	134,814 62	146,176 48	168,515 28	189,299 04	202,970 53	141,933 37	232%
Pensions to teachers ***	96,029 97	104,347 95	110,782 38	116,392 59	127,567 79	134,783 68	143,035 79	145,165 60	145,657 02	127,956 15	131,698 12	133,015 82	131,529 49	35,499 52	37%
Extended use of public schools	30,084 91	32,888 99	24,723 90	39,136 67	29,800 21	39,909 92	52,536 95	54,012 30	59,796 51	55,079 70	71,911 91	82,130 63	83,895 37	53,810 46	179%
Repairs and alterations, protection against fire and fire hazard, and new furniture and furnishings for old buildings, including new lighting fixtures †	413,556 91	471,322 83	572,801 00	518,194 62	1,011,551 51	953,712 71	1,099,999 84	1,461,983 61	1,468,509 68	1,420,455 35	1,623,411 55	1,675,124 10	1,609,475 04	1,165,918 13	283%
Totals for maintenance	\$6,034,495 15	\$6,355,589 16	\$6,779,121 62	\$7,394,457 58	\$9,887,477 59	\$11,179,330 35	\$11,756,766 17	\$12,421,826 16	\$13,045,650 47	\$12,697,039 05*	\$15,046,642 95	\$15,805,191 52	\$16,225,836 77	\$10,191,341 62	169%
Expenditures for lands, plans and construction †	439,996 94	1,040,930 29	616,484 11	545,015 32	1,210,824 98	1,651,322 69	2,329,904 76	3,219,283 78	3,219,365 21	4,317,824 77*	4,655,749 21	3,703,039 41	3,408,467 55	2,968,410 61	675%
Totals for maintenance and for lands, plans and construction	\$6,474,492 09	\$7,396,519 45	\$7,395,605 73	\$7,939,472 90	\$11,098,302 57	\$12,830,653 04	\$14,086,670 93	\$15,641,109 94	\$16,265,015 68	\$17,014,863 82*	\$19,702,392 16	\$19,508,230 93	\$19,634,244 32	\$13,159,752 23	203%

N B.—Prior to the year 1925 the period of the financial year covered twelve months, from February first of one year to January thirty-first of the following year. By City Charter amendment the financial year period was changed to the calendar year period (January first to December thirty-first). This change was effected in 1925 with the consequence that the expenditures for that year (1925) covered an eleven-month period instead of the usual twelve-month period. The period covered in order to effect the change was from February first to December thirty-first, 1925. Beginning with the year 1926, and for each year thereafter, expenditures will again cover a twelve-month period, taking in the calendar year liabilities from January first to December thirty-first.

* Eleven months of expenditures for 1925 which accounts for the decrease over the year immediately preceding, brought about by City Charter amendment changing the financial year period. See note for details.

† Expenditures for this item are made by the Schoolhouse Commission, a department under control of the Mayor.

* Decrease

** Pensions to employees retired before the establishment of the Boston Retirement System or who did not become members of such system.

¹ From School Document No. 1, 1929—Annual Report of Business Manager, 1928.

Proportion of Total Government Cost Payments Devoted to School Purposes in Boston and in Twenty-one Other Cities

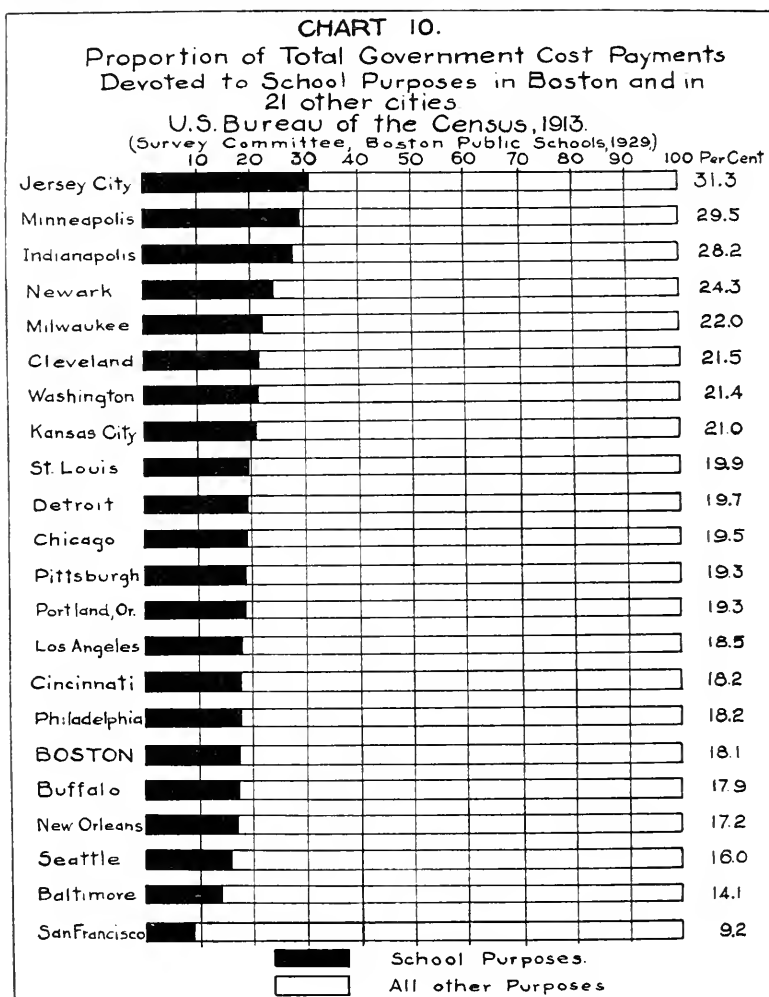
Public school education is a municipal activity carried on by all our American cities; while conditions will not be the same for any two of them, certain standards will gradually develop in a diversity of situations and each individual city can learn something from the experience of others meeting similar problems. It is natural for cities of approximately equal population to expect somewhat similar situations to arise, and for one of them to find that the practice of her neighbors is at least suggestive for herself.

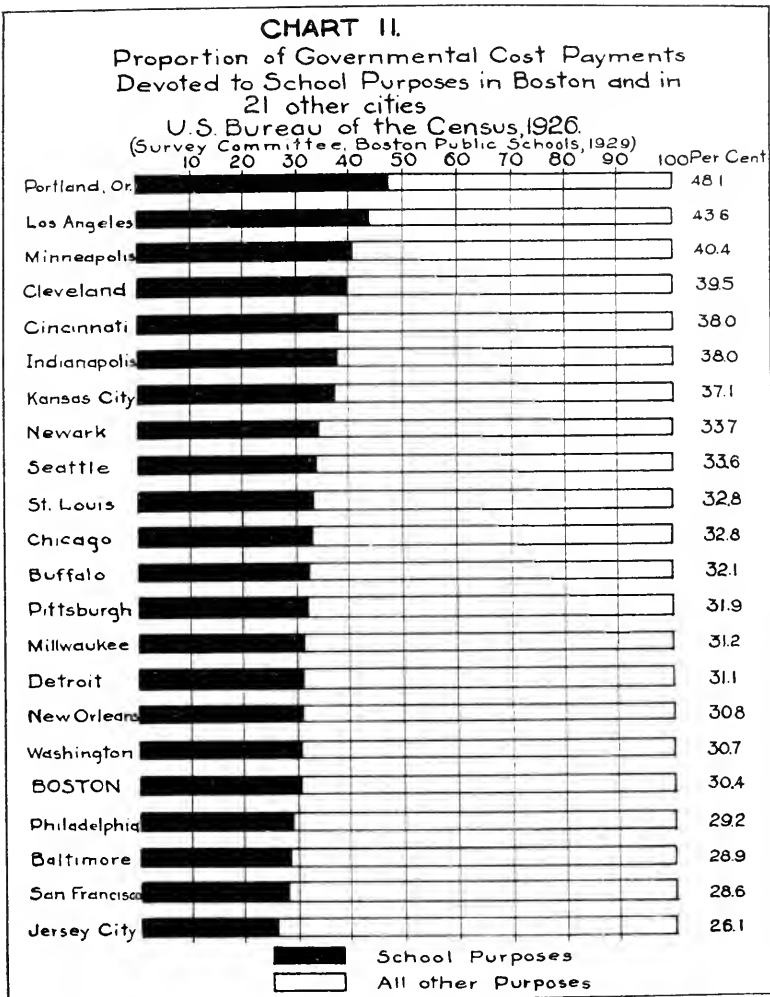
What Boston spends for schools should not be at great variance with other American cities of her own class, and any wide variation should call for investigation and explanation. Chart 10 shows the per cent of total government cost payments devoted to schools in Boston and twenty-one other cities more or less comparable in the year 1913. Boston put 18.1 cents out of each dollar spent from her municipal treasury into public education, and finds herself 17th out of the 22 cities on the list, well below Cleveland and St. Louis, cities with which Boston is often compared. Cincinnati places 15th, two positions ahead of Boston.

The era of the Great War and the decade since have brought great changes to the American cities, and in none of these has the change been more pronounced than in the matter of public education. Chart 11 shows the municipal payment for schools just 13 years later, in 1926, for the same 22 cities that are used in Chart 10. A great sweep forward has taken place in the relative importance of public education; from 1913 to 1926 the maximum per cent for schools in these 22 cities has moved from 31.3 to 48.1, the median from 19.4 to 32.5, and the minimum from 9.2 to 26.1; and it is further noteworthy that the minimum figure for 1926 is above the fourth place figure for 1913. And what do we find for Boston? While her municipal expenditure for education has increased from 18.1 per cent of her budget to 30.4 per cent her relative position among these 22 cities has dropped from 17th place to 18th, while St. Louis moves from 9th to 10th; but Cleveland has gained from 6th to 4th, and Cincinnati has leaped from 15th to 5th.

Viewed in the light of these charts, Boston holds a conservative position among her sister cities in the matter of supporting public education. However, in comparing the cost of education

in Boston with that of other cities, the Survey Committee considers that the vital question is, "What is the real value of the education now being given in the Boston Schools?"





NOTE.—There are items upon which exact and uniform data are not available, but the chart indicates, in general, the relative amount of money spent for education in Boston as compared with other cities in the country.

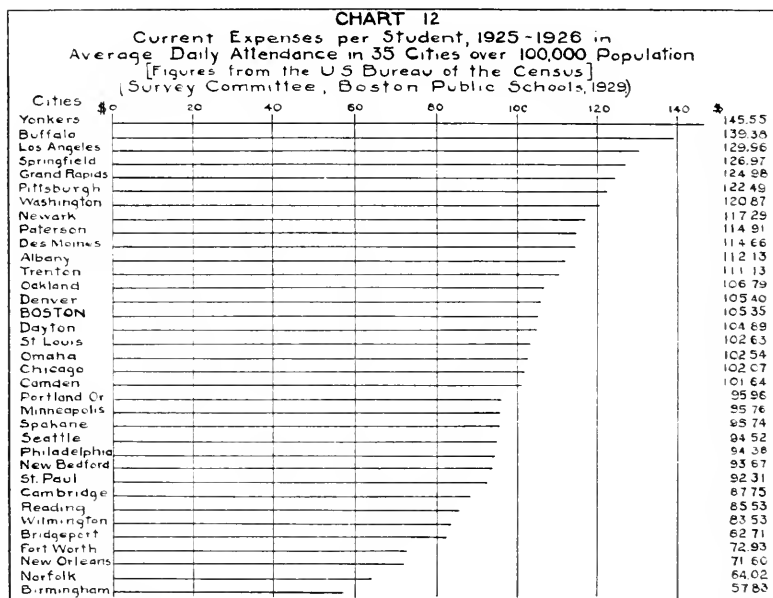
Current Expense Per Student

Two general methods of comparing cities in forming an estimate of their educational budget are in common use:

1. The per cent of their total municipal expenses devoted to the cause of public education.
2. The current expense per pupil in average daily attendance.

The first of these bases of comparison was employed in Charts 10 and 11; the second is employed in Chart 12, for the school year 1925-1926.

Chart 12 shows the relative position of 35 cities of over 100,000 population in the current expense per student in average daily attendance. Boston's position is 15th in this list of 35 cities, just above the median of the group.



Boston School Costs, 1916-1927

The preparation of any budget plan requires at least three sets of data on which to base recommendations:

- a. A record of actual money expended covering a term of years.
- b. An appraisal of the value received from these appropriations.
- c. As exact an estimate as it is possible to obtain of the essential needs of the present and immediate future.

The duty of a Survey Committee involves recommendations based on three similar sets of data, seen on a broader, more comprehensive scale than the merely financial outlook of a budget commissioner.

Charts 13, 14 and 15 are designed to meet the first of these conditions by presenting the expenditures for Boston schools over a twelve-year period, 1916 to 1927, for three degrees of inclusiveness;

- a. The entire school expense.
- b. Current expense excluding new construction.
- c. All salaries paid by the School Committee.

and with two bases of comparison:

- a. The actual number of dollars paid, and
- b. The value of those dollars in terms of a pre-war standard of purchasing power.

The individual citizen has realized that the cost of living in his own household has moved up markedly since 1913, but the same citizen has bewailed the swift advance in municipal expense without making due allowance for the same influences that were affecting his home. Added to the decrease in dollar value are the generally enhanced standards throughout American life; the schools have shared in this general advance. School expenses have thus been forced upward by three distinct influences:

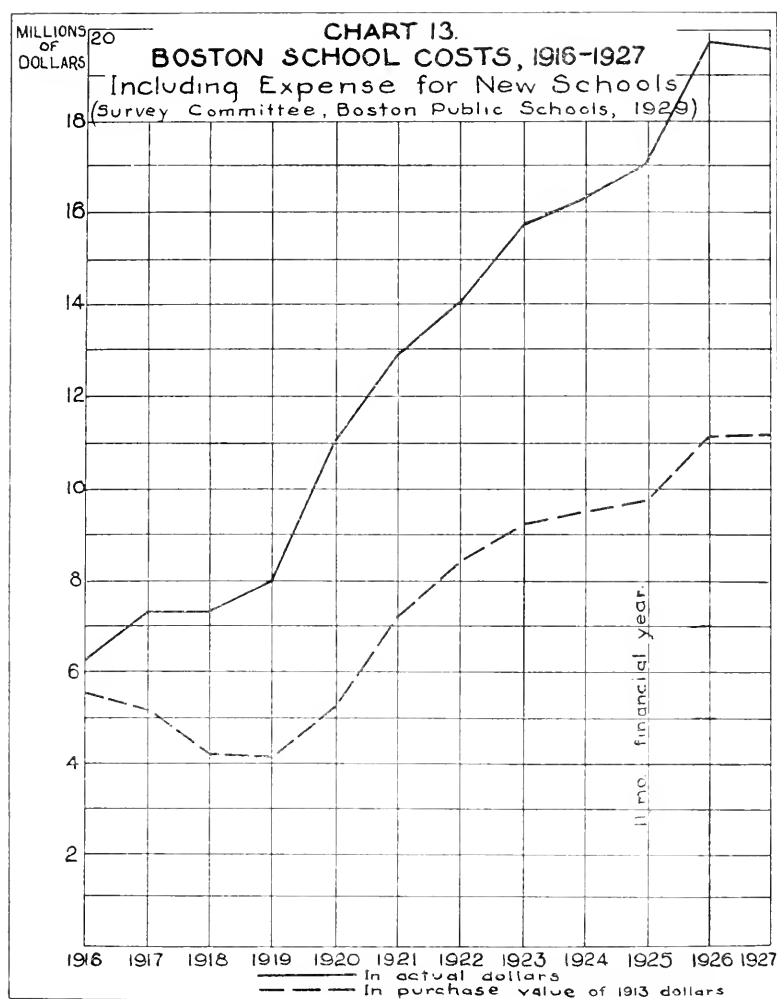
- a. The decreased value of the purchasing unit.
- b. The general urge toward a higher standard, and
- c. The increased total of boys and girls passing through our schools.

In Chart 13 the solid line follows a path showing that the total cost of the schools has moved from under six and one-half millions of dollars in 1916 to over nineteen and one-half millions in 1927, that this growth has been comparatively steady in its swiftly upward trend, except for 1918, 1919 and 1927. In 1918 and 1919 the lessened growth was due to the direct effects of the Great War, and in 1927 the drop was due to a smaller amount put into new school buildings. The broken line pictures this same expense in terms of the value of the pre-war dollar, and tells a very different story than the actual payments made; the payment gains of 1917, 1918 and 1919 are transformed into actual decreases of values purchased, and the sharper gains in the payments of 1920 to 1926 are much lessened in the purchased values of those same years. The six and one-half millions paid in 1916 have a five and one-half millions value, while the over nineteen and one-half millions paid in 1927 have only eleven and one-quarter millions value.

Chart 14 presents a corresponding story with the omission of the payments made for new schools, and could quite accurately be labelled "Current Expense." The solid line (covering payments made) shows a much more regular progress from six millions in 1916 to nearly sixteen millions in 1927 than was shown in Chart 13. Current expense appears to have a uniformity that was missing when new schools were included. The broken line shows pre-war values of these payments from 5.1 millions in 1916 to 9.2 millions in 1927. The drop to less than four millions for 1918 and for 1919 shows that school support was lowered owing to the pressure of war conditions.

Chart 15 presents the story for salaries alone, the largest single item in the budget of the School Committee. Payments increased from 4.8 millions in 1916 to 12 millions in 1927; this does not mean that salaries were more than doubled, as the teaching force grew from 3,300 in 1916 to 4,260 in 1927. Each individual teacher was subject to the increased cost of living, so that value of salaries of four millions in 1916 decreasing to less than three millions in 1918 and recovering only to 3.5 millions in 1920 are figures that speak for themselves. The 4 millions value of salaries in 1916 increased to nearly 7 millions in 1927 distributed among a 30 per cent larger force than in the earlier year. A comparison of the three charts shows clearly that salaries were increased at a lower rate than other elements of current expense and considerably lower than for total school expense.

In all three charts (13, 14 and 15) irregularity is introduced at the year 1925; the ending of the City of Boston financial year was changed from February 1 to January 1 so that the year 1925 covers payments for eleven months instead of twelve.



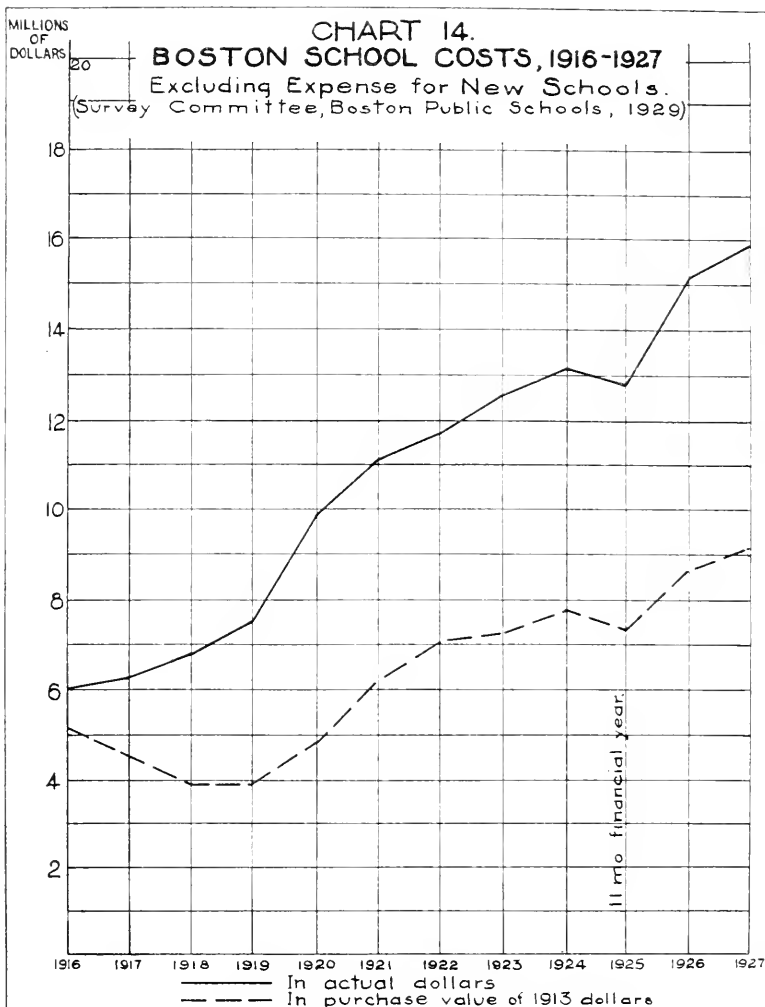
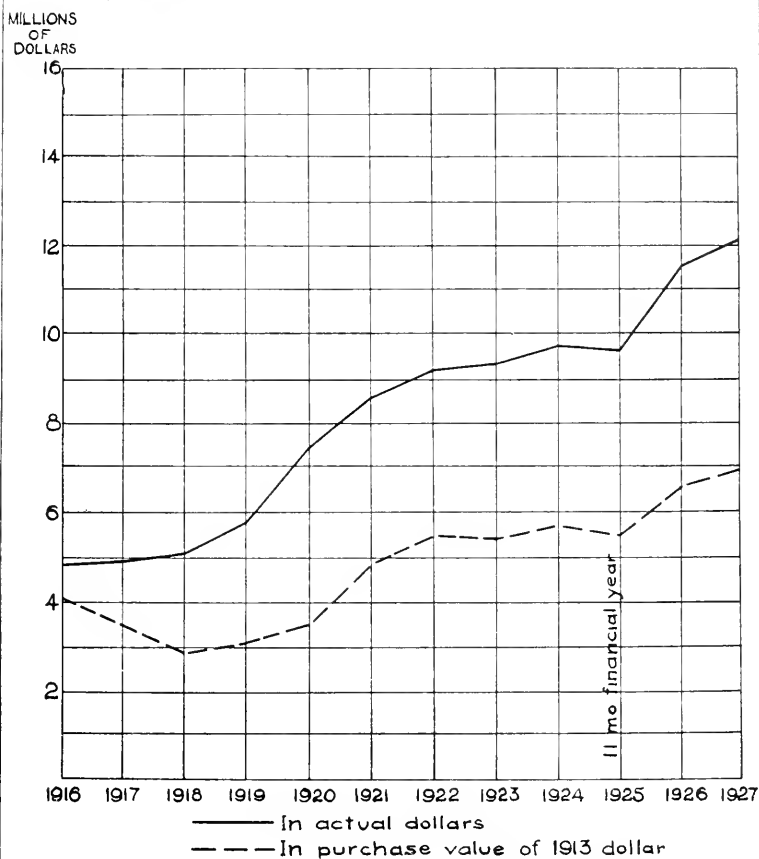


CHART 15.
BOSTON SCHOOL COSTS, 1916-1927
All Salaries (Instruction, Officers, Custodians)
(Survey Committee, Boston Public Schools, 1929.)



[Table with Charts 13, 14, 15]
Condensed Summary of Boston School Expenses (Actual)
 (Expressed in Units of \$1,000)

Year.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.*	1926.	1927.
Salaries.....	4,831	4,921	5,098	5,787	7,395	8,551	9,116	9,244	9,758	9,628	11,504	12,061
Fuel, Light, Supplies.....	481	662	806	726	1,053	1,114	1,023	1,197	1,268	1,121	1,281	1,376
Pensions.....	116	118	118	141	146	160	171	152	237	206	209	211
Health and Recreation.....	174	189	184	240	292	359	368	367	399	394	502	556
Renovation.....	444	471	573	518	1,012	954	1,100	1,462	1,469	1,420	1,623	1,675
Total Maintenance.....	6,046	6,361	6,779	7,412	9,898	11,168	11,778	12,422	13,131	12,769	15,119	15,879
New Schools.....	440	1,041	616	545	1,211	1,651	2,330	3,219	3,219	4,318	4,656	3,703
Total School Money.....	6,486	7,402	7,395	7,957	11,109	12,819	14,108	15,641	16,350	17,087	19,775	19,582

Condensed Summary of Boston School Expenses
 (Expressed in Units of \$1,000, Reduced to Purchasing Power of 1913 Dollar)

Year. Index.†	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.*	1926.	1927.
Salaries.....	4,085	3,456	2,923	3,074	3,547	4,824	5,450	5,406	5,717	5,480	6,567	6,984
Fuel, Light, Supplies.....	406	404	462	385	505	644	611	700	742	638	731	797
Pensions.....	98	68	106	75	70	90	102	89	139	117	119	122
Health and Recreation.....	147	133	106	127	140	203	220	215	234	224	286	322
Renovation.....	375	331	328	275	485	538	657	854	860	809	927	970
Total Maintenance.....	5,111	4,407	3,887	3,636	4,747	6,299	7,040	7,264	7,692	7,268	8,630	9,195
New Schools.....	372	731	354	290	581	1,393	1,393	1,881	1,886	2,458	2,457	2,144
Total School Money.....	5,483	5,198	4,241	4,226	5,328	7,230	8,433	9,205	9,578	9,726	11,287	11,339

* Years before 1925 from February 1 to February 1.
 Year 1925 is for a period of eleven (11) months.

Years 1926 and after are calendar years.

† The index used for obtaining the purchasing power measured in 1913 dollars is that of the United States Bureau of Labor Statistics.

There is an orderly growth in all the main items except "new schools"; in "new schools" the construction units are completed so irregularly that there are striking differences from year to year, and percentage growth from the previous year would have no meaning.

In the tables, "Condensed Summary of Boston School Expenses":

1. **Salaries** includes salaries of all instructors, administrative officers and clerks, custodians and matrons.

2. **Fuel, Light, Supplies** includes fuel, light, power from electric current, supplies, equipment, and incidentals.

3. **Pensions** includes pensions to supervisors of attendance, and custodians, teachers, and payments to Permanent Pension Fund.

4. **Health and Recreation** includes expenses of physical education, school physicians and nurses, and extended use of the public schools.

5. **Renovation** includes repairs and alterations of buildings, fire protection, new furniture for old buildings, including new lighting fixtures.

6. **New Schools** includes payment for land, plans, and the construction and furnishing of new buildings.

Payment under 1, 2, 3, and 4 are in control of the School Committee; under 5 and 6, in the control of the Schoolhouse Commission.

The second table reduces the amounts of the first to a common value for the dollar, by using the index of Purchasing Power as presented by the United States Bureau of Labor Statistics. For instance, the index for 1921 is 177.3 and means that \$177.30 in 1921 would buy the equivalent of what \$100 would purchase in 1913. Because of severe changes in purchasing power of the dollar such a reduction is necessary to make any fair comparison over the last ten years.

Increase in Maintenance Cost, 1927 Over 1916

A larger number of dollars has been paid for the support of schools during the last dozen years. Many influences have entered into the making of this increase, and they have operated unequally in different elements of the school budget. A clearer understanding of the situation is obtained by a study of separate elements in school expense as affected by two active influences:

The change in the purchasing power of the dollar,
and

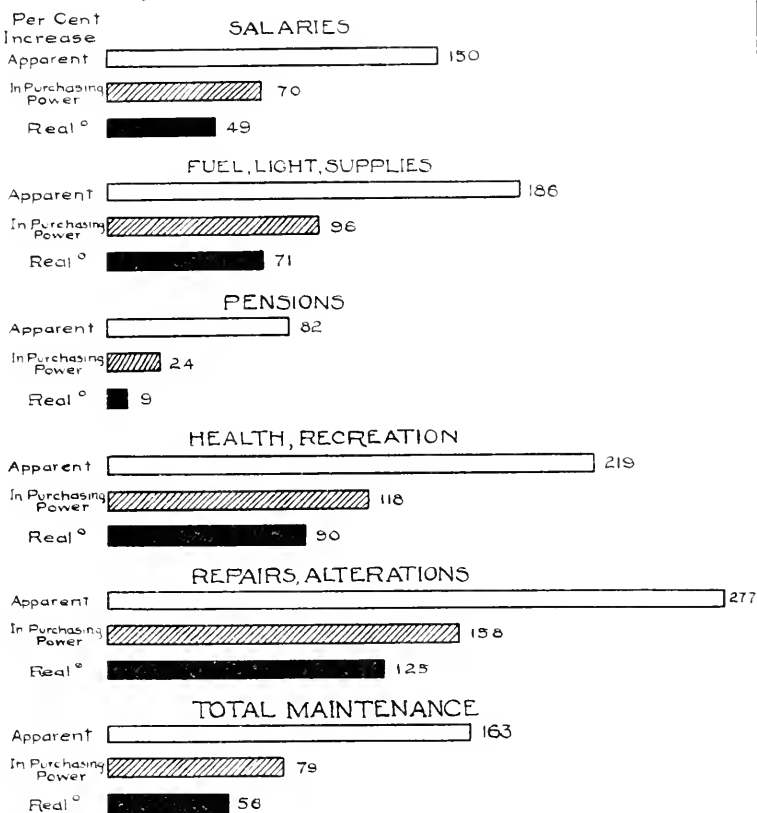
The change in pupil membership.

The upper bars of Chart 16 present the per cent increases of 1927 over 1916 in payments for salaries, for fuel, light, and supplies, for pensions, for health and recreation, for repairs and alterations, and for total maintenance. The middle bars show the per cent increases of 1927 over 1916 when the payments for both years have been converted to the value of 1913 dollars, using the Index of the Cost of Living issued by the United States Bureau of Labor (for 1916, 118.3; for 1927, 173.4). The lower bars represent the per cent increase of 1927 over 1916 of the individual pupil expense measured in the pre-war 1913 dollar. The average pupil membership in 1916 was 110,990 and in 1927 it was 127,158.

For example, the Health and Recreation budget for 1927 was 219 per cent over the amount for 1916; measured in pre-war dollars the increase was 118 per cent, and on a per-pupil basis there was an increase of 90 per cent. The item relating to pensions shows a much smaller rate of increase than the other budget items as it is now largely transferred to the general city employees' pension list.

Results here bear out the general deduction from Charts 13, 14 and 15 that salary increases have been less than for other budget items, and strongly suggest that Repairs and Alterations have gained too fast. Health and Recreation has shown a relatively large increase.

CHART #16
 PER CENT INCREASE IN MAINTENANCE COST, 1927 over 1916
 of BOSTON PUBLIC SCHOOLS, (1) Apparent, (2) Corrected, and (3) Real.
 (Survey Committee, Boston Public Schools, 1929)



* Allowing for decreased value of the dollar and growth of average membership

□ In Actual Payments ▨ Reduced to 1913 dollars ■ Per Pupil

[Table with Chart 16]
Real Increase of School Costs, Boston Public Schools, 1916-1927
 UNDER FIVE MAIN HEADINGS AND TOTAL OF MAINTENANCE EXPENSE

Actual cost, reduced to 1913 dollars, and then per pupil, with per cent increase

	Salaries.			Fuel, Light, Supplies.			Pensions.		
	1916.	1927.	Per Cent Increase.	1916.	1927.	Per Cent Increase.	1916.	1927.	Per Cent Increase.
Actual Payments *	4,831	12,061	150 ⁰⁰ / ₁₀₀	481	1,376	186 ⁰⁰ / ₁₀₀	116	211	82 ⁰⁰ / ₁₀₀
In 1913 dollars *	4,085	6,984	71 ⁰⁰ / ₁₀₀	406	797	96 ⁰⁰ / ₁₀₀	98	122	24 ⁰⁰ / ₁₀₀
Per pupil †	\$36 80	\$54 92	49 ⁰⁰ / ₁₀₀	\$3 65	\$6 27	72 ⁰⁰ / ₁₀₀	\$0 88	\$0 96	9 ⁰⁰ / ₁₀₀

	Health and Recreation.			Repairs and Alterations.			Total Maintenance.		
	1916.	1927.	Per Cent Increase.	1916.	1927.	Per Cent Increase.	1916.	1927.	Per Cent Increase.
Actual Payments*	174	556	219 ⁰⁰ / ₁₀₀	444	1,675	277 ⁰⁰ / ₁₀₀	6,046	15,879	163 ⁰⁰ / ₁₀₀
In 1913 dollars *	147	322	119 ⁰⁰ / ₁₀₀	375	970	159 ⁰⁰ / ₁₀₀	5,111	9,195	80 ⁰⁰ / ₁₀₀
Per pupil †	\$1 33	\$2 53	90 ⁰⁰ / ₁₀₀	\$3 38	\$7 63	126 ⁰⁰ / ₁₀₀	\$46 05	\$72 32	57 ⁰⁰ / ₁₀₀

* In units of \$1,000.

† Expressed in 1913 dollars per pupil.

Actual Payments reported by the Business Manager of the Boston School Committee.

Value in 1913 dollars based on Index of Cost of Living, United States Bureau of Labor Statistics; For 1916, 118.3; for 1927, 172.7.

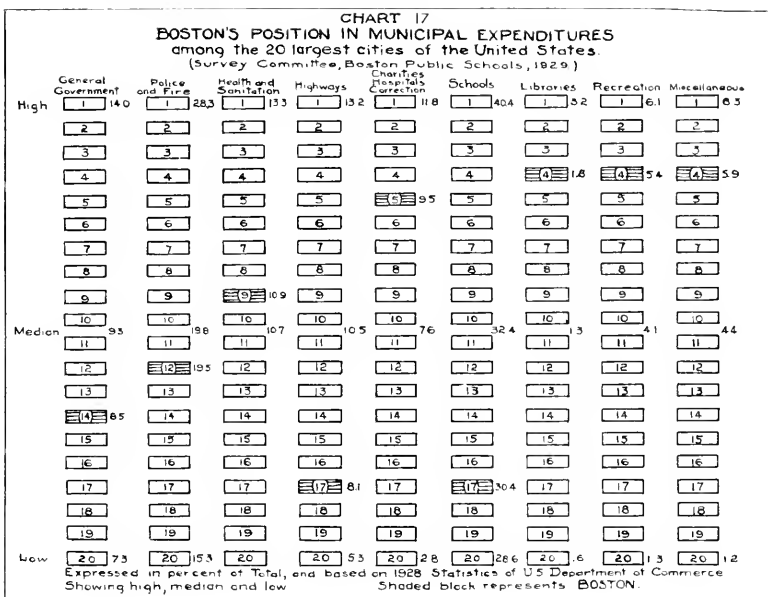
Average School Membership, from Annual Statistics of the Boston Public Schools; For 1916, 110,990; for 1927, 127,158.

The real increases in costs are much less than the apparent increases, and are partially due to the faster growth of the secondary schools, the more expensive portion of the school system.

Municipal Expenditures

For Chart 17 the source-material is the table of total expenditures under nine different headings for large cities of the United States in the volume, "Statistical Abstract of the United States, 1928," issued by the United States Department of Commerce.

The twenty largest cities were chosen for the study, and the amount under each heading figured as a per cent of the total expenditure; these per cents were then arranged in a decreasing series for each separate heading, and the high, low, median and Boston per cents are shown in the chart. It will be noted that Boston is in fourth place among the twenty cities in municipal payments for Libraries, for Recreation, and for Miscellaneous activities; and in fifth place for Charities, Hospitals and Correction. Boston is near the median in ninth place for Health and Sanitation, and in twelfth place for Police and Fire Protection. The General Government expenditures for Boston are found in fourteenth place. Boston's lowest position in the table, seventeenth place, is shared in common by Highways and Schools.



[Table with Chart 17]

**Governmental Cost Payments of Twenty Largest United States Cities by Departments Expressed
in Per Cent of Total Payments**

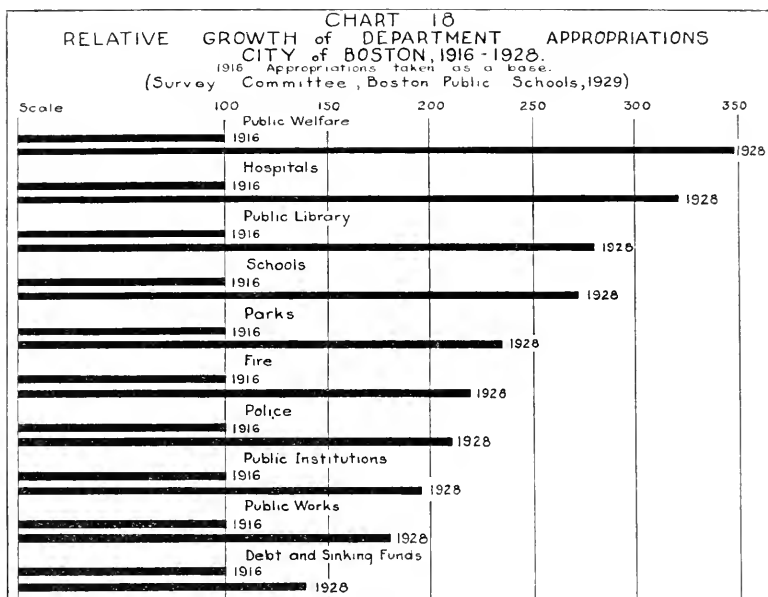
	General Govern- ment.	Police and Fire Pro- tection.	Health and Sani- tation.	Highways.	Charities, Hospitals and Cor- rection.	Schools.	Library.	Recrea- tion.	Miscel- laneous.
New York.....	10.4	19.6	10.8	8.3	6.3	34.3	0.8	2.1	7.4
Chicago.....	11.2	18.6	13.3	8.6	4.5	32.7	1.0	4.8	5.3
Philadelphia.....	10.8	20.2	10.4	6.4	7.8	29.2	0.8	6.1	8.3
Detroit.....	7.4	21.8	11.2	11.8	7.6	31.0	1.7	4.1	3.4
Cleveland.....	9.3	16.7	11.6	9.6	4.2	39.5	3.2	1.6	4.3
St. Louis.....	8.9	25.8	7.2	8.8	9.3	32.8	1.3	4.5	1.4
Baltimore.....	7.3	24.5	11.2	12.0	5.9	28.8	1.2	4.1	5.0
Boston.....	8.5	19.5	10.9	8.1	9.5	30.4	1.8	5.4	5.9
Los Angeles.....	9.2	20.0	6.4	10.6	7.0	40.8	1.6	2.5	1.9
Pittsburgh.....	12.2	16.5	11.3	13.1	6.7	31.9	1.6	2.2	4.5
San Francisco.....	9.6	28.3	5.1	5.3	11.1	28.6	0.8	5.6	5.6
Buffalo.....	7.5	17.5	10.6	11.5	9.4	32.1	1.0	4.7	5.7
Washington.....	4.9	21.5	8.6	13.2	11.8	30.7	0.8	4.8	3.7
Milwaukee.....	8.8	17.2	11.8	10.5	8.5	31.2	1.6	5.7	4.7
Newark.....	8.1	21.7	12.2	6.4	10.5	33.6	1.2	2.8	3.5
Minneapolis.....	8.0	15.6	9.9	10.4	5.0	40.4	2.2	4.5	4.0
New Orleans.....	12.0	25.5	13.1	10.2	2.8	30.8	0.6	2.6	2.4
Cincinnati.....	11.1	15.3	6.9	11.6	7.5	38.0	1.4	1.3	6.9
Kansas City.....	14.0	15.6	5.4	12.6	10.3	37.0	1.4	2.5	1.2
Seattle.....	12.1	22.3	10.2	10.9	3.9	33.6	1.9	2.3	2.8
Boston's position.....	14th	12th	9th	17th	5th	17th	4th	4th	4th

Cost Payments taken from "Statistical Abstract of the United States, 1928," issued by the United States Department of Commerce.

The table, "Governmental Cost Payments of the Twenty Largest United States Cities," shows the percentage of total payments devoted to different avenues of civic activity. It does not show the total payments nor the per-capita payments for different purposes, but it does show the relative importance of these services in the actual distribution of municipal monies.

Boston's payment for schools is 30.4 per cent of the payment for all departments, and Boston is the seventeenth in this list of twenty cities whose payments for schools range from 40.4 per cent to 28.6 per cent. The three cities below Boston in their proportion of expense devoted to schools are Philadelphia, Baltimore, and San Francisco. Among those above Boston are Detroit, Cleveland, St. Louis, Pittsburgh, and Buffalo.

This table is compiled from statistics of city expenses presented in the latest (Spring, 1929) volume issued by the United States Department of Commerce, "Statistical Abstract of the United States, 1928."



Appropriations by Departments, City of Boston
1916-1928 at Three-Year Intervals
 Scaled With the 1916 Appropriation as a Base.

Year.	Schools.	Public Works.	Debt and Sinking Funds.	Police Department.	Fire Department.
1916.....	100	100	100	100	100
1919.....	120	132	108	122	131
1922.....	191	152	107	153	162
1925.....	212	145	122	166	187
1928.....	272	179	138	210	219

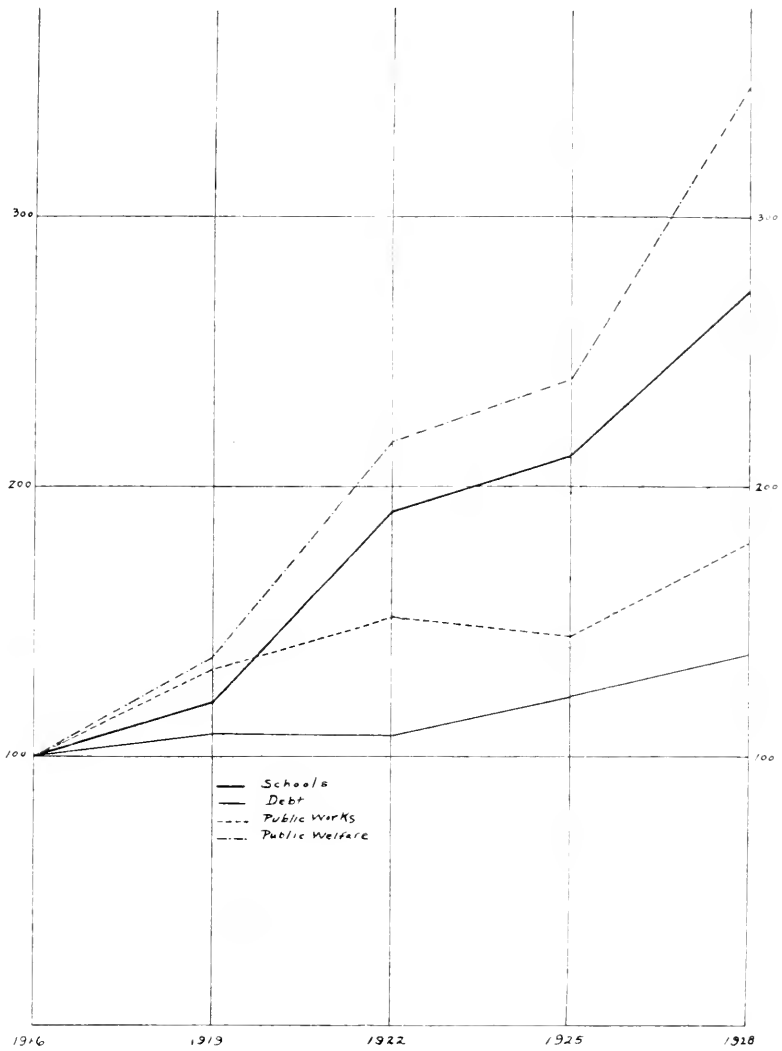
Year.	Park Department.	Hospitals.	Public Welfare.	Public Institutions.	Public Library.
1916.....	100	100	100	100	100
1919.....	136	124	137	140	133
1922.....	173	157	217	152	181
1925.....	198	211	240	140	211
1928.....	235	320	348	195	278

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GROWTH OF APPROPRIATIONS -1916-1928

CITY OF BOSTON DEPARTMENTS

Based on 1916 Expense as 100
Survey Committee, Boston Public Schools, 1929



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SECTION III

GROWTH AND DISTRIBUTION OF SCHOOL POPULATION OF BOSTON *

Boston School Growth

Charts 19-24 present the growth record of the Boston public schools from 1900 to 1928.

Chart 19 shows the per cent of total day school membership found in the different divisions of the city schools. High school pupils have increased from 6.5 per cent to 17.3 per cent of all pupils in the public day schools. The intermediate membership comprises Grades VII, VIII and IX, except for ninth grade pupils in high school attendance; it is not restricted to pupils in definitely organized intermediate schools. All other sections of the public school membership show an upward growth in percentage of the total at the expense of the elementary schools; this is partly due to the development of other portions of the school system, and also partly due to the fact that the parochial schools draw largely from children of elementary school age.

In Chart 20 is shown the growth in membership of high and Latin schools from 5,128 in 1900 to 22,332 in 1928, a quite phenomenal development when compared with a population advance from 560,000 in 1900 to 800,000 in 1928. Even that does not tell the entire story; from 1900 to 1918 high and Latin schools included all pupils in Grades IX to XII, except a very few in special schools; from 1918 on an increasing portion of the ninth grade pupils have been included in the newly organized intermediate schools.

Chart 21 shows what the high and Latin membership would have reached if these ninth grade pupils had all been retained in these schools. Part of this increased retention undoubtedly belongs to the superior attractiveness to the student of the intermediate program as compared to that of the eight-grade elementary school.

Chart 22 shows a theoretical rather than an actual picture of Boston intermediate schools. All pupils of Grades VII, VIII and IX are included except the ninth grade members of high schools. The city is only partially transformed to the 6-3-3 plan; some

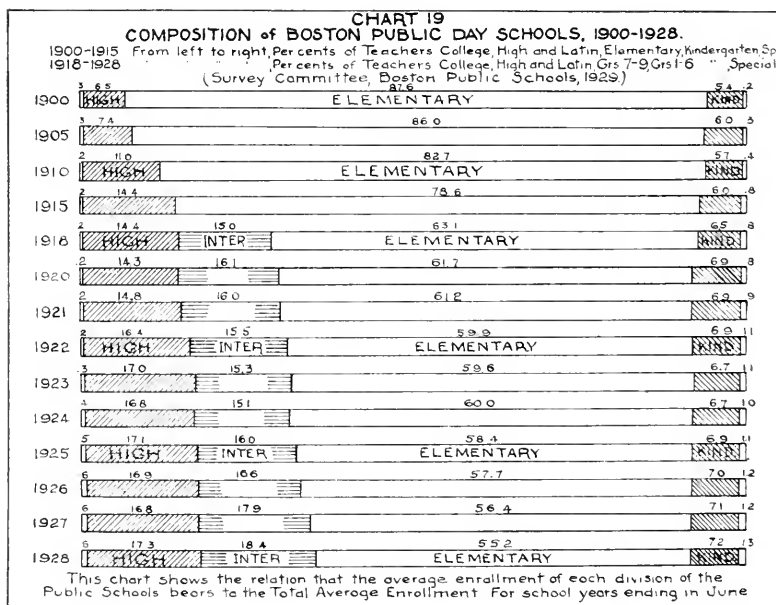
* See Part I, pages 74-84, A Study of the Growth and Shifting of Population as Related to a Building Program.

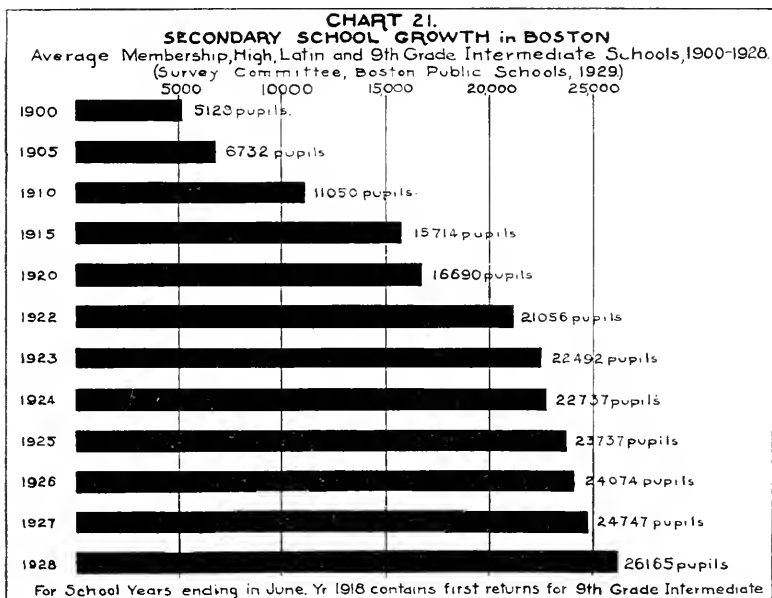
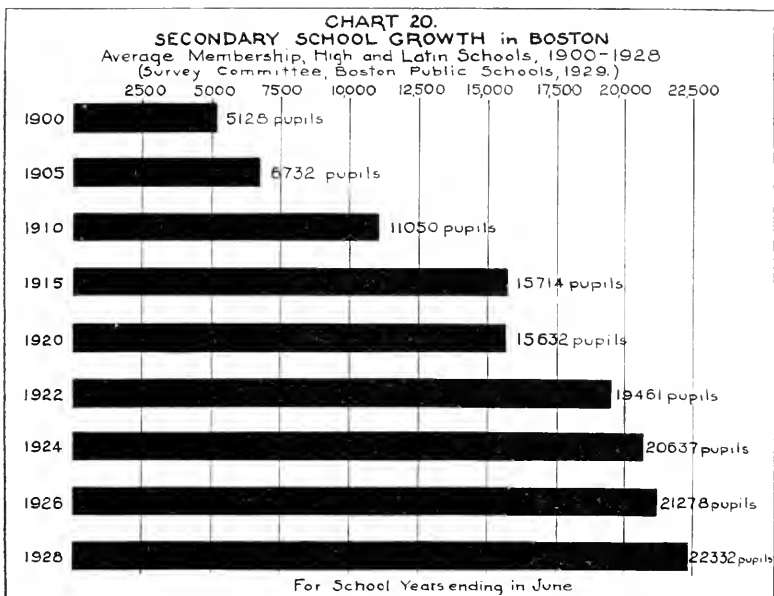
ninth grade pupils are in high schools and some in the intermediate; some seventh and eighth grade pupils are in the intermediate schools and some in the older eight-grade elementary schools, where the new intermediate program is only partially attainable. The full attainment of the 6-3-3 plan may still further stimulate the membership of Grades VII, VIII and IX.

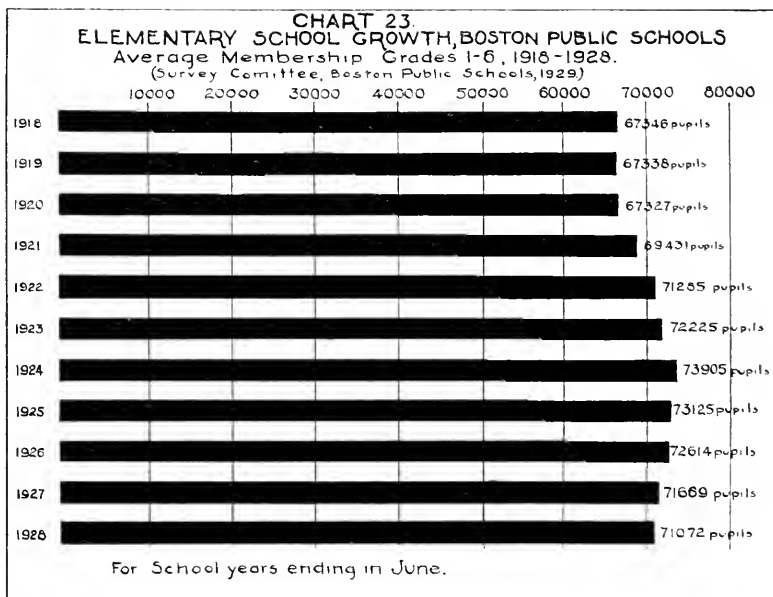
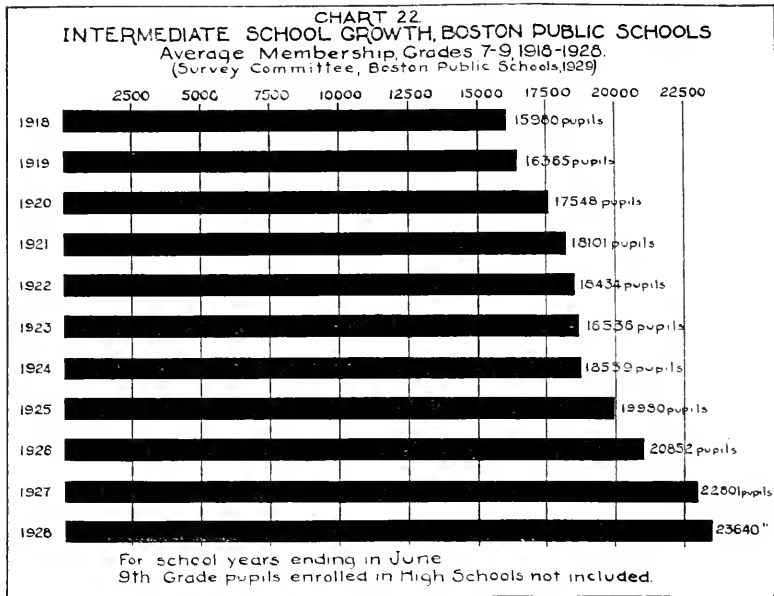
In Chart 19 it is found that the elementary per cent of total school membership has steadily decreased to offset increases in all other sections of the school population.

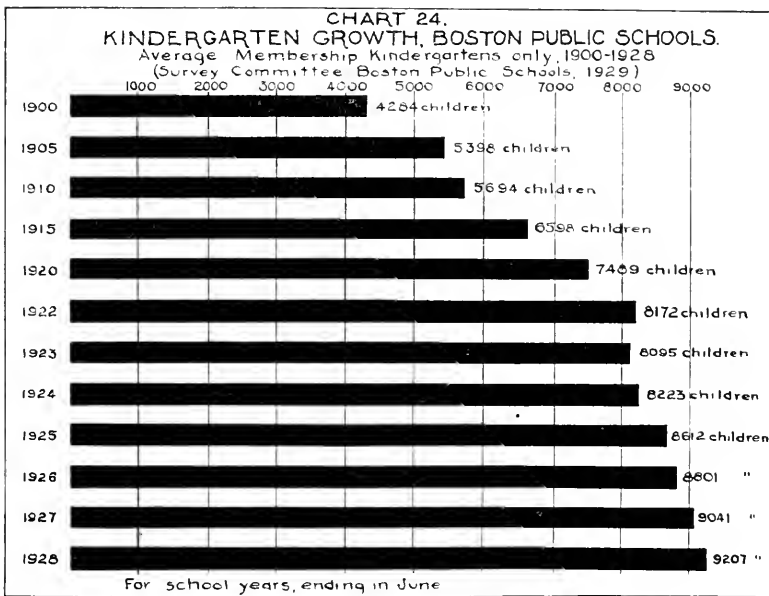
In Chart 23 we find that the actual membership for Grades I-VI has increased slowly until the year 1924, and since then there has been an actual yearly decrease.

The kindergarten growth, shown in Chart 24, presents a record that is rather surprising in its contrast to the story of the elementary grades in Chart 23. The natural expectation would be for elementary growth to closely parallel any increase in the kindergarten; the failure to do so must be explained by the loss of public school kindergartners to parochial and other private schools, and the return of many of them for the intermediate and high school years. Another factor is undoubtedly the growing tendency to begin the school life of the child in the kindergarten instead of the first grade.









[Table with Charts 19, 20, 21, 22, 23, 24]
Average Membership, Boston Public Schools
 Day Pupils, with Per Cent of Total
 (For School Years Ending in June)

Year.	Teachers College.	Per Cent.	High and Latin.	Per Cent.	Elemen- tary and Inter- mediate.	Per Cent.	Kinder- garten.	Per Cent.	Special.	Per Cent.	Total.
1900.....	226	0.29	5,128	6.46	69,442	87.63	4,284	5.41	164	0.21	79,244
1905.....	266	0.29	6,732	7.43	78,010	86.06	5,398	5.96	239	0.26	90,645
1910.....	219	0.22	11,050	11.05	82,739	82.68	5,694	5.69	337	0.36	100,039
1915.....	185	0.17	15,714	14.39	85,871	78.62	6,598	6.04	855	0.78	109,223
1916.....	286	0.26	16,882	15.21	85,884	77.38	7,014	6.32	924	0.83	110,990
1917.....	295	0.27	16,755	15.64	83,087	77.54	6,180	5.77	836	0.78	107,153
1918.....	262	0.25	15,368	14.40	83,326	78.10	6,879	6.45	855	0.80	106,690
1919.....	230	0.22	14,963	14.01	83,703	78.42	7,059	6.61	788	0.74	106,743
1920.....	235	0.22	15,632	14.33	84,875	77.79	7,489	6.86	879	0.80	109,110
1921.....	262	0.23	16,737	14.76	87,532	77.18	7,881	6.95	998	0.88	113,410
1922.....	301	0.25	19,461	16.36	89,719	75.41	8,172	6.87	1,317	1.11	118,970
1923.....	407	0.34	20,615	17.01	90,761	74.91	8,095	6.68	1,283	1.06	121,161
1924.....	487	0.39	20,637	16.76	92,464	75.12	8,223	6.68	1,275	1.04	123,086
1925.....	653	0.52	21,355	17.07	93,105	74.42	8,612	6.88	1,390	1.11	125,115
1926.....	724	0.57	21,278	16.92	93,466	74.30	8,801	7.00	1,520	1.21	125,789
1927.....	772	0.61	21,347	16.79	94,470	74.29	9,041	7.11	1,528	1.20	127,158
1928.....	789	0.61	22,332	17.35	94,712	73.57	9,207	7.15	1,695	1.32	128,735

Average Membership, Boston Public Schools

Day Pupils, with Per Cent of Total
(For School Year Ending in June)

Year.	High, Latin and 9th Inter- mediate.	Per Cent.	Elementary Grades 1-8.	Per Cent.
1900.....	5,128	6.46	69,442	87.63
1905.....	6,732	7.43	78,010	86.06
1910.....	11,050	11.05	82,739	82.68
1915.....	15,714	14.39	85,871	78.62
1916.....	16,882	15.21	85,884	77.38
1917.....	16,755	15.64	83,087	77.54
1918.....	16,128	15.11	82,566	77.39
1919.....	15,831	14.83	82,835	77.60
1920.....	16,690	15.30	83,817	76.82
1921.....	18,073	15.94	86,196	76.00
1922.....	21,056	17.70	88,124	74.07
1923.....	22,492	18.56	88,884	73.36
1924.....	22,737	18.47	90,364	73.41
1925.....	23,737	18.97	90,723	72.52
1926.....	24,074	19.13	90,670	72.09
1927.....	24,747	19.46	91,070	71.62
1928.....	26,165	20.33	90,879	70.59

Per Cent of Total Average School Membership for Grades
7-9* and 1-6

Year.	Total Average Member- ship.	Grades 7-9 Average Member- ship.	Per Cent.	Grades 1-6 Average Member- ship.	Per Cent.
1918.....	106,690	15,980	14.98	67,346	63.12
1919.....	106,743	16,365	15.33	67,338	63.09
1920.....	109,110	17,548	16.08	67,327	61.71
1921.....	113,410	18,101	15.96	69,431	61.22
1922.....	118,970	18,434	15.49	71,285	59.92
1923.....	121,161	18,536	15.30	72,225	59.61
1924.....	123,086	18,559	15.08	73,905	60.04
1925.....	125,115	19,980	15.97	73,125	58.45
1926.....	125,789	20,852	16.57	72,614	57.73
1927.....	127,158	22,801	17.93	71,669	56.36
1928.....	128,735	23,640	18.36	71,072	55.21

* Omitting ninth grade pupils enrolled in High Schools.

City and School Growth, Boston, 1900-1928

Chart 25 presents a graphic picture of school increase compared with increase in city population; the 1900 figures are used as a base (100) and later figures are reckoned as a ratio to that, so the picture of growth in the chart is a fair one.

While in twenty-eight years (1900-28) Boston's population has increased 41 per cent, her public school pupil membership has increased 62 per cent and the high school pupil membership 335 per cent.

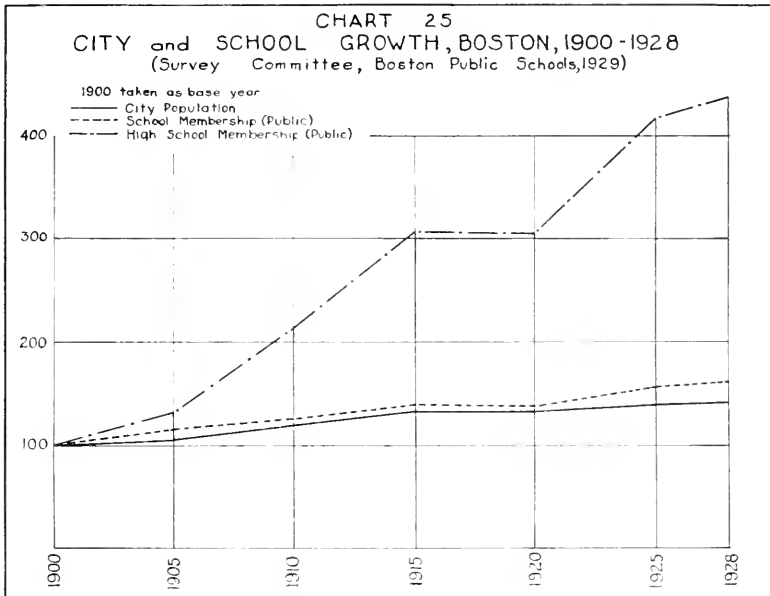
The public school pupil membership has made a faster growth than the city population, but with a quite normally increased rate.

The high school growth has been remarkable. The rate from 1900 to 1905 was well above that of population and of public school pupil membership, but it increased markedly from 1905 to 1915. High school numbers remained practically stationary from 1915 to 1920, then increased greatly from 1920 to 1925, and afterward gained more slowly from 1925 to 1928. This great growth in high school attendance has not yet reached its peak, but promises to continue at a rate much closer to that of population increase.

Including the parochial school membership the figures are as follows:

	1900.	1928.
Public school pupil membership	79,244	128,735
Parochial school pupil membership	13,020	28,839
Public and parochial	92,264	157,574
Using 1900 as a base	100	171

The high school growth has been even more remarkable than appears on the face of these astonishing figures. Beginning in 1918 the establishment of intermediate schools has taken ninth grade pupils out of the high schools in increasing numbers. In spite of this fact there is a high school growth from 100 in the year 1900 to 435 in the year 1928.



[Table with Chart 25]

Boston's Population, Public School Pupil Membership
1900-1928, at Five-Year Intervals

Year.	City Population.	Using 1900 as a Base.	Pupil Membership.	Using 1900 as a Base.	High School Pupil Membership.	Using 1900 as a Base.
1900.....	560,892	100	79,244	100	5,128	100
1905.....	595,380	106	90,645	114	6,732	131
1910.....	670,585	120	100,059	126	11,050	215
1915.....	745,439	133	109,223	138	15,714	306
1920.....	748,060	133	109,110	138	15,632	305
1925.....	779,620	139	125,115	158	21,355	416
1928.....	* 793,146	141	128,735	162	22,332	435

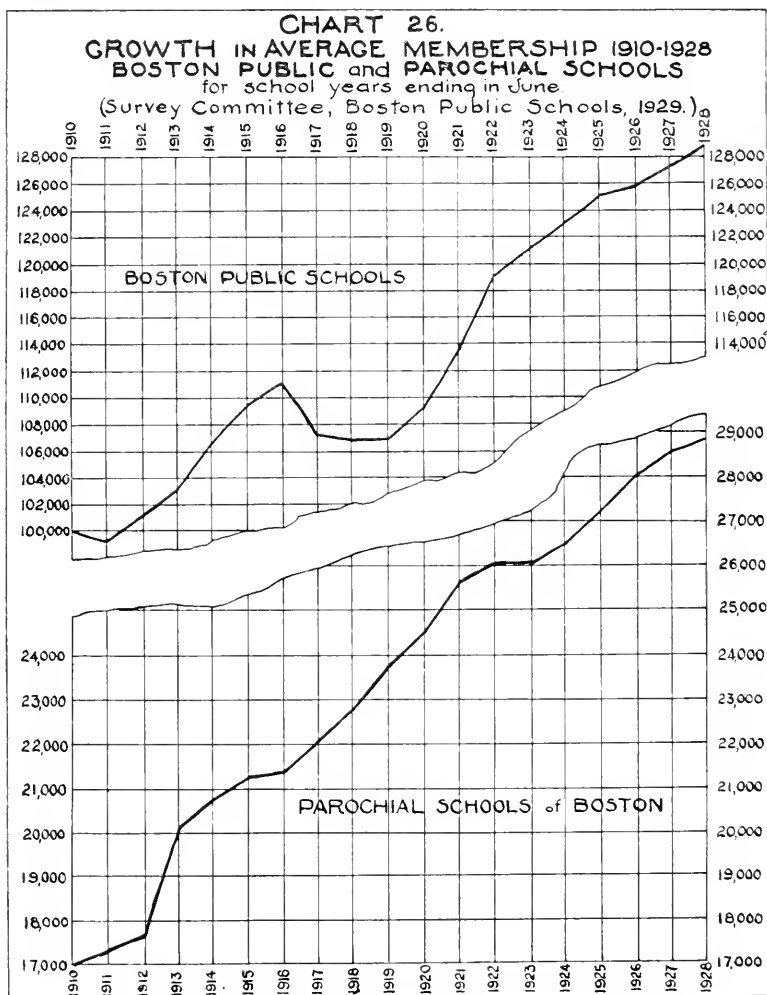
* Estimated.

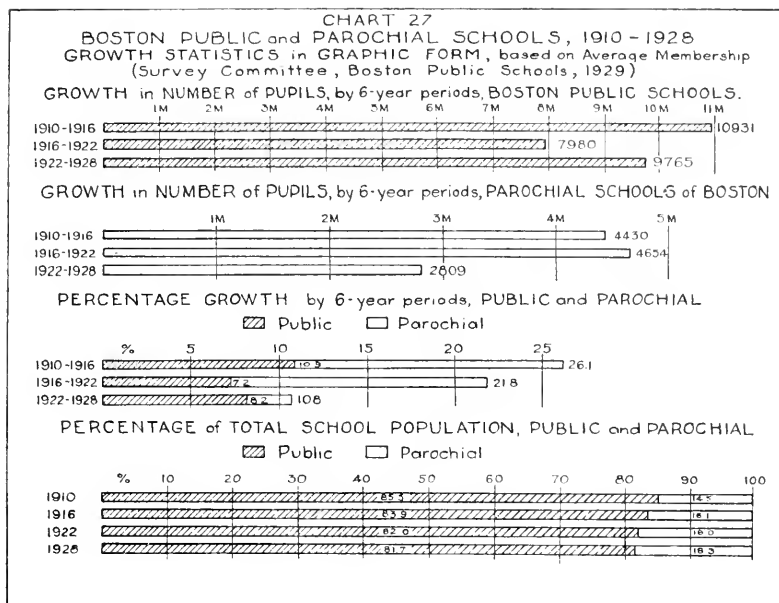
Public and Parochial School Growth

The growth of membership in the Boston public schools has been affected by the growth in parochial schools. Chart 26 presents the growth in average membership of the Boston public schools and of the parochial schools of Boston between the years 1910 and 1928. In that time the public school total has increased 28 per cent, while the parochial schools have gained 70 per cent.

In Chart 27 the details of this growth are analyzed by six-year periods. The public school growth in numbers is smallest for the middle period, and the last period shows a gain nine-tenths of the first. The parochial school growth in numbers for the middle period is even better than the first, with the third period slightly more than half as large.

The last graph of Chart 27 shows the increasing percentage that the parochial school membership bears to the total of public and parochial. These figures, 14.5, 16.1, 18.0, and 18.3, six years apart, show that the parochial pupils are still gaining relatively, but at a lessened rate during the last period.





[Table with Charts 26, 27]

Average Membership for Years 1910-1928
Boston Public Schools — Parochial Schools of Boston
 With Each One's Per Cent of Total

Year.	Public Schools.	Per Cent.	Parochial Schools.	Per Cent.	Total.
1910.....	100,059	85.5	16,946	14.5	117,005
1911.....	99,269	85.2	17,269	14.8	116,538
1912.....	101,021	85.2	17,598	14.8	118,619
1913.....	103,028	83.7	20,090	16.3	123,118
1914.....	106,549	83.7	20,706	16.3	127,255
1915.....	109,223	83.8	21,186	16.2	130,409
1916.....	110,990	83.9	21,376	16.1	132,366
1917.....	107,153	82.9	22,071	17.1	129,224
1918.....	106,690	82.4	22,784	17.6	129,474
1919.....	106,743	81.8	23,805	18.2	130,548
1920.....	109,110	81.6	24,552	18.4	133,662
1921.....	113,410	81.5	25,685	18.5	139,095
1922.....	118,970	82.0	26,030	18.0	145,000
1923.....	121,161	82.3	26,034	17.7	147,195
1924.....	123,086	82.3	26,522	17.7	149,608
1925.....	125,115	82.1	27,213	17.9	152,328
1926.....	125,789	81.8	28,013	18.2	153,802
1927.....	127,158	81.7	28,552	18.3	155,710
1928.....	128,735	81.7	28,839	18.3	157,574

Data from Annual Statistics of the Boston Public Schools.

**Parochial School Enrolment, City of Boston,
October 1, 1929**

The Survey Committee of the Boston Public Schools is indebted to Rev. Richard J. Quinlan, Diocesan Supervisor of Schools, for his cooperation in supplying statistics of the Parochial Schools of the City of Boston as of October 1, 1929.

Totals by Sections of the City

	Elementary.	High.
South End	816	89
West End	750	—
North End	1,592	—
Roxbury	4,533	800
South Boston	4,122	384
East Boston	2,608	89
Charlestown	2,469	—
Dorchester	5,170	344
Jamaica Plain	2,701	308
Roslindale	403	—
Allston	453	—
Brighton	1,292	71
Hyde Park	1,065	—
Readville	336	—
Total	28,310	2,085

Parochial Schools, City of Boston, October 1, 1929

School.	Kinder- garten.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	Total.	IX.	X.	XI.	XII.	Total.
South End:															
Cathedral.....	—	54	47	42	46	52	44	48	41	374	34	25	30	—	89
Holy Trinity.....	—	31	20	21	28	22	21	26	10	179	—	—	—	—	—
St. Rita's.....	—	53	44	51	43	35	37	—	—	263	—	—	—	—	—
West End:															
St. Joseph's.....	—	117	102	104	100	94	100	79	54	750	—	—	—	—	—
North End:															
St. Mary's.....	—	87	94	94	84	77	77	61	59	633	—	—	—	—	—
St. Anthony's.....	64	137	60	53	98	51	51	49	44	907	—	—	—	—	—
St. John's.....	—	56	50	48	47	50	47	29	25	352	—	—	—	—	—
Roxbury:															
St. Patrick's.....	47	103	105	77	83	69	83	78	73	* 718	66	50	48	—	* 164
St. Joseph's.....	—	67	81	75	57	100	236	66	77	857	42	33	—	—	* 75
Perpetual Help.....	—	264	239	262	212	253	236	209	176	1,901	163	114	128	119	524
St. John's.....	—	77	67	66	55	58	54	44	71	492	12	12	13	—	* 37
Holy Trinity.....	—	60	32	28	48	24	24	21	22	259	—	—	—	—	—
St. Francis de Sales.....	—	85	118	71	75	63	58	57	49	576	—	—	—	—	—
South Boston:															
Ss. Peter and Paul.....	24	60	80	82	99	84	82	58	49	618	36	30	29	22	* 117
Gate of Heaven.....	—	165	160	162	153	154	145	149	61	1,117	—	—	—	—	—
St. Augustine's.....	—	148	142	141	132	129	119	115	85	1,069	35	33	32	14	* 114
St. Mary's.....	—	60	78	67	67	65	62	65	56	509	—	—	—	—	—
Nazareth.....	46	129	94	104	97	90	99	85	95	859	54	38	31	30	* 153
East Boston:															
Titton.....	—	96	58	71	65	53	44	45	36	468	20	23	21	25	* 89
Assumption.....	—	59	60	58	44	49	47	40	37	394	—	—	—	—	—
Sacred Heart.....	86	101	102	126	107	109	105	73	73	879	—	—	—	—	—
St. Mary's.....	—	107	73	83	67	81	73	70	67	634	—	—	—	—	—
St. Lazarus.....	—	54	43	44	43	49	—	—	—	233	—	—	—	—	—
Charlestown:															
St. Francis de Sales.....	91	169	124	133	149	122	112	87	90	1,077	—	—	—	—	—
St. Mary's.....	—	105	83	105	94	100	84	81	73	735	—	—	—	—	—
St. Catherine's.....	—	104	100	112	73	78	68	66	56	657	—	—	—	—	—
<i>Carried forward.....</i>	358	2,548	2,265	2,291	2,249	2,100	1,905	1,637	1,476	16,890	462	358	332	210	1,362

* Girls only.

Parochial Schools, City of Boston, October 1, 1929—Concluded

School.	Kinder- garten.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	Total.	IX.	X.	XI.	XII.	Total.
<i>Brought forward.</i>	358	2,548	2,266	2,291	2,249	2,100	1,965	1,697	1,476	16,890	462	358	332	210	1,362
Dorchester:															
St. Peter's.....	—	191	167	166	165	161	147	135	132	1,264					
St. Ann's.....	—	99	89	97	55	53	50	51	39	533					
St. Margaret's.....	—	131	155	173	168	139	146	129	107	1,148	46	34	33	—	* 113
St. Gregory's.....	—	127	119	124	113	107	111	100	91	892	70	66	47	48	* 231
St. Mark's.....	—	114	108	105	107	96	91	94	—	715					
St. Matthew's.....	—	104	59	60	59	67	—	—	—	349					
St. William's.....	—	83	65	79	42	—	—	—	—	269					
Jamaica Plain:															
St. Thomas'.....	—	131	121	124	132	107	101	97	91	904	47	45	53	—	145
Lady of Lourdes.....	—	101	86	92	100	89	91	50	46	655					
Cheverus.....	—	138	135	147	142	167	148	137	128	1,142	85	78	—	—	163
Roslindale:															
St. Francis Xavier's.....	—	59	56	52	52	50	46	43	45	403					
Allston:															
St. Anthony's.....	—	54	54	55	54	56	53	79	48	453					
Brighton:															
St. Columbkille's.....	—	120	118	137	98	118	105	107	101	904	28	16	27	—	* 71
Presentation.....	—	66	63	56	60	47	49	47	—	388					
Hyde Park:															
St. Raphael's.....	—	160	145	156	146	138	131	95	94	1,065					
Readville:															
St. Anne's.....	20	44	39	41	42	45	43	37	25	336					
Total.....	378	4,270	3,845	3,955	3,784	3,540	3,217	2,898	2,423	28,310	738	597	492	258	2,085

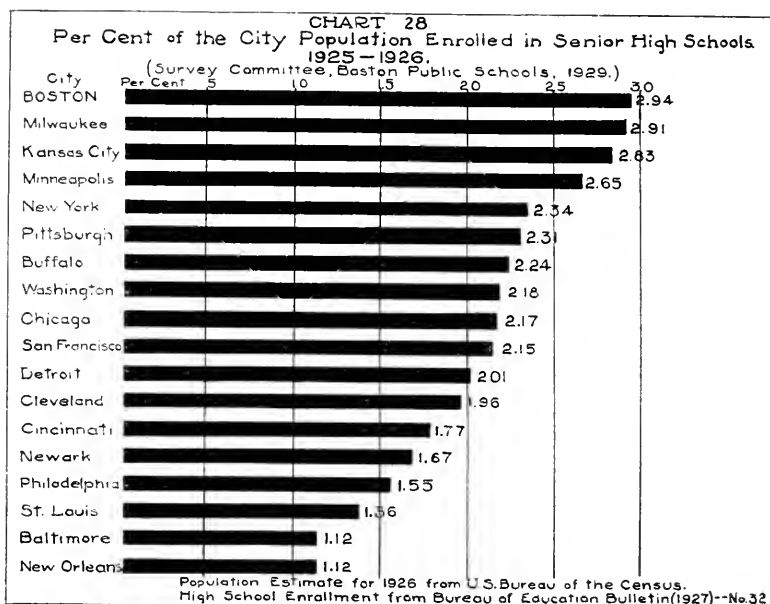
* Girls only.

High School Enrolment in Eighteen Cities

The material for Chart 28 was obtained by computing the number of high school students as a per cent of the city population. The high school enrolment was taken from the Bureau of Education Bulletin (1927) — No. 32, and the population from the 1926 estimate of the United States Bureau of the Census. Owing to unusual growth in Los Angeles and Seattle, no 1926 estimate of population was made for these two cities, and the twenty cities of Chart 17 were reduced to eighteen on that account.

The per cent of high school enrolment is one measure of the holding power of the school system of a city; it tells something both of the character of the citizenship and of the attractiveness of the school's offering.

The current cost for each boy or girl increases sharply with the student's progress from elementary to intermediate to high schools, and the civic pride that provides a school system which keeps the pupil through the high school years must also provide an increasingly generous school budget to meet the higher costs of plant and instruction.



[Table with Chart 28]

Population and High School Enrolment — 1926

City.	Population, estimated by Bureau of Census.	High School Enrolment.		Junior-Senior Enrolment.
		Number of Pupils.	Per Cent of Population.	Ratio.
Boston.....	787,000	23,238	2.94	* 1/2
Milwaukee.....	517,000	15,065	2.91	—
Kansas City.....	375,000	10,602	2.83	2/5
Minneapolis.....	434,000	11,503	2.65	1/1
New York.....	5,924,000	138,865	2.34	5/8
Pittsburgh.....	637,000	14,763	2.31	1/2
Buffalo.....	544,000	12,186	2.24	—
Washington.....	528,000	11,517	2.18	1/2
Chicago.....	3,048,000	65,582	2.17	1/5
San Francisco.....	567,000	12,195	2.15	3/10
Detroit.....	1,290,000	25,898	2.01	1/2
Cleveland.....	960,000	18,856	1.96	9/5
Cincinnati.....	411,000	7,256	1.77	1/4
Newark.....	459,000	7,656	1.67	3/10
Philadelphia.....	2,008,000	31,068	1.55	7/10
St. Louis.....	830,000	11,305	1.36	1/4
Baltimore.....	808,000	9,062	1.12	5/3
New Orleans.....	419,000	4,698	1.12	—

* Boston has no Junior High School pupils in the Bureau of Education Bulletin from which the figures of this table were drawn; but the organized VII-IX schools of 1926 make the ratio in the table effectively true.

This is a list of the twenty largest cities of the United States at the time of the 1920 census, excepting Los Angeles and Seattle for which the Bureau of the Census would not venture 1926 estimates.

The column showing the ratio of Junior High School Enrolment to Senior High School Enrolment tells quite accurately the progress of the Junior High School movement. It probably also has an uneven effect on High School Enrolment and its per cent of the population.

This table furnishes an added reason why Boston should expect to find her school costs rate high; she has a higher percentage of her population enrolled in the most costly department of the public schools than has any other large city of the country.

Industrial and Academic Enrolments

Boston High and Trade Schools, 1924=1929 (October 1 Figures)

Courses.	1924.	1925.	1926.	1927.	1928.	1929.	Per Cent Change in 5 Years.
High School Cooperative.....	1,063	1,210	1,289	1,419	1,651	1,727	+62.5
Boston Trade School.....	484	504	596	663	760	879	+81.6
Trade School for Girls.....	614	674	567	504	602	586	-4.5
Mechanic Arts High School.....	1,660	1,636	1,638	1,586	1,538	1,480	-10.8
High School of Practical Arts.....	1,036	966	781	810	831	866	-16.4
All manual courses, high and trade schools.....	4,857	4,990	4,871	4,982	5,382	5,538	+14.0
All academic courses, high and Latin schools.....	18,708	18,635	18,757	19,608	20,887	21,941	+17.3

The high school cooperative courses and the Boston Trade School have had marked growth over the five-year period; the Trade School for Girls, Mechanic Arts High School and the High School of Practical Arts have shown decreases. Manual courses for girls are opposite in trend to manual courses for boys; the Mechanic Arts High School has lost to the newer forms of industrial courses.

Despite the marked growth in Cooperative and Boys' Trade courses, the five-year increase in all courses of industrial work is at the rate of 14 per cent, and the academic enrolment is at the higher rate of 17.3 per cent.

The high school cooperative courses are:

Auto Mechanics at Brighton High.
Electricity at Charlestown High.
Woodworking at Dorchester High for Boys.
Printing at Memorial High (Boys).

Machine Shop at East Boston High.
Machine Shop at Hyde Park High.
Agriculture at Jamaica Plain High.
Sheet Metal at South Boston High.

SECTION IV

CLASS SIZES AND UNIT COSTS

Pupils Per Teacher

One measure that is often used to estimate the efficiency of a school system is the number of pupils per teacher. Quite different results will be obtained by taking the number of pupils in different ways:

Total number of pupils enrolled.

Average number of pupils enrolled.

Average number of pupils in attendance.

The formation of classes is dependent upon the total number enrolled at the time and must be used in the organization of the school, but the average attendance forms a fairer comparison of the actual teaching conditions.

The standing of a school may differ considerably depending on which of these measures is used. They would give identical results only if the attendance records and the rate of change in enrolment were the same for all the schools involved.

In Chart 29 two methods have been used dealing with twenty-five cities of the United States whose population figures are over a quarter million apiece. The class sizes in column 1 are obtained by dividing the total pupil enrolment in the elementary schools by the number of elementary teachers; in column 2, by dividing average attendance in the elementary schools by the number of elementary teachers; in column 3, by dividing total pupil enrolment in the high schools by the number of high school teachers; and in column 4, by dividing the average attendance in the high schools by the number of high school teachers.

Among these twenty-five cities Boston places as follows:

Method of Counting Pupils.	Class Size.	Position.
1. Elementary enrolment	43.1	23d
2. Elementary average attendance	36.2	22d
3. High enrolment	29.5	21st
4. High average attendance	25.2	23d

An unexpected result was reached when the ranking positions for each city under the four classifications were totalled, and these sums arranged in order. Boston's position in these totals was 25th, showing a well-balanced school situation.

CHART 29
BOSTON'S RANK in PUPILS per TEACHER.
 among the 25 cities of the United States having
 over 250,000 population

Showing low, high, median and BOSTON figures for pupils per teacher
 in 4 categories. Based on Statistics of City School Systems, 1925-1926.
 (Survey Committee, Boston Public Schools, 1929.)

I	II	III	IV	V
1 306	1 253	1 18.9	1 13.8	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13 373	13 308	13 262	13 223	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16
17	17	17	17	17
18	18	18	18	18
19	19	19	19	19
20	20	20	20	20
21	21	21 295	21	21
22	22 362	22	22	22
23 431	23	23	23 252	23
24	24	24	24	24
25 50.0	25 38.7	25 31.0	25 27.2	25

I. Elementary School Enrollment.

IV. High School Average Attendance

II.

"

Average Attendance

V.

Combining ranks I, II, III and IV

III. High School Enrollment

Shaded block represents BOSTON

[Tables with Chart 29]

Pupils per Teacher in Elementary Schools in 25 Cities of the United States Having Over 250,000 Population

	Number of Teachers.	Pupil Enrolment.	Number of Pupils per Teacher.	Rank 1.	Average Attendance.	Number of Pupils per Teacher.	Rank 2.
Baltimore.....	2,083	79,644	38.2	15	64,286	30.9	14
Boston.....	2,399	103,533	43.1	23	86,937	36.2	22
Buffalo.....	1,838	60,207	32.8	4	50,850	27.7	5
Chicago.....	8,095	369,921	45.7	24	311,824	38.5	24
Cincinnati.....	1,208	40,593	33.6	5	34,530	28.6	8
Cleveland.....	2,755	97,504	35.4	8	81,131	29.4	9
Denver.....	846	29,044	34.3	7	22,670	26.8	3
Detroit.....	3,751	139,485	37.2	11	103,014	27.4	4
Indianapolis.....	1,170	43,185	36.9	10	35,954	30.7	12
Jersey City.....	946	38,758	41.0	19	31,996	33.8	19
Kansas City.....	1,255	42,902	34.2	6	35,516	28.3	7
Los Angeles.....	4,171	133,098	31.9	3	105,456	25.3	1
Milwaukee.....	1,299	54,925	42.3	22	46,108	35.5	21
Minneapolis.....	1,240	46,199	37.3	13	40,542	32.7	17
Newark.....	1,624	60,452	37.2	12	50,725	31.2	15
New Orleans.....	1,146	48,003	41.9	21	37,358	32.6	16
New York.....	18,912	768,337	40.6	18	668,419	35.3	20
Philadelphia.....	4,484	224,368	50.0	25	173,625	38.7	25
Pittsburgh.....	1,812	72,465	40.0	17	59,800	33.0	18
Portland, Oregon.....	1,115	41,664	37.4	14	33,844	30.4	11
Rochester.....	984	30,866	31.4	2	27,466	27.9	6
San Francisco.....	1,436	51,083	35.6	9	42,290	29.5	10
Seattle.....	1,138	44,715	39.3	16	35,094	30.8	13
St. Louis.....	1,757	72,460	41.2	20	64,263	36.6	23
Washington.....	1,615	49,345	30.6	1	41,770	25.9	2

Number of teachers, pupil enrolment, and average attendance were obtained from Bureau of Education Bulletin (1927) No. 32 — Statistics of City School Systems, 1925-1926.

Pupils per Teacher in High Schools in 25 Cities of United States Having Over 250,000 Population

	Number of Teachers.	Pupil Enrolment.	Number of Pupils per Teacher.	Rank 3.	Average Attendance.	Number of Pupils per Teacher.	Rank 4.	Rank with Four Ranks Combined in One.
Baltimore.....	360	9,062	25.2	8	8,255	22.9	16	14
Boston.....	788	23,238	29.5	21	19,874	25.2	23	25
Buffalo.....	602	12,186	20.2	3	10,161	16.9	3	3
Chicago.....	2,443	65,582	26.9	15	61,029	25.0	22	24
Cincinnati.....	327	7,256	22.2	5	6,400	19.6	6	5
Cleveland.....	648	18,856	29.1	20	14,463	22.3	14	12
Denver.....	261	6,699	25.6	9	5,822	22.3	13	6
Detroit.....	912	25,898	28.4	19	23,455	25.7	24	15
Indianapolis.....	434	11,763	27.1	16	9,320	21.5	10	10
Jersey City.....	236	6,178	26.2	13	5,146	21.2	11	17
Kansas City.....	380	10,602	27.9	18	8,626	22.7	15	9
Los Angeles.....	1,806	34,113	18.9	1	24,880	13.8	1	1
Milwaukee.....	508	15,065	29.7	22	12,495	24.6	19	23
Minneapolis.....	596	11,503	19.3	2	10,586	17.8	4	7
Newark.....	298	7,656	25.7	10	6,547	22.0	12	11
New Orleans.....	157	4,698	29.9	24	3,923	25.0	21	22
New York.....	4,645	138,865	29.9	23	114,847	24.7	20	21
Philadelphia.....	1,181	31,068	26.3	14	24,816	21.0	8	19
Pittsburgh.....	568	14,763	26.0	12	11,025	19.4	5	13
Portland, Oregon.....	356	9,909	27.8	17	8,650	24.3	18	16
Rochester.....	275	5,788	21.0	4	4,443	16.2	2	2
San Francisco.....	471	12,195	25.9	11	9,983	21.2	9	8
Seattle.....	455	14,131	31.0	25	12,379	27.2	25	20
St. Louis.....	482	11,305	23.5	7	11,064	23.0	17	18
Washington.....	496	11,517	23.2	6	10,066	20.3	7	4

Number of teachers, pupil enrolment, and average attendance were obtained from Bureau of Education Bulletin (1927) No. 32 — Statistics of City School Systems, 1925-1926.

The chart and two tables on "Pupils per Teacher" are based on the United States Bureau of Education Bulletin (1927) No. 32 — Statistics of City School Systems, 1925-1926.

Boston's schools, compared with all the other school systems of the larger cities of the United States, are not over-staffed with teachers.

The size of classes used in the "Annual Statistics of the Boston Public Schools" could not be used in this study, because they are based on average enrolment and are a valuable figure for school organization purposes, but comparable figures are not available for the rest of the large cities. Total enrolment furnishes a figure somewhat larger than would be actually employed in class organization, while average attendance gives a smaller figure than the class rolls of the schools would show. However, total enrolment and average attendance are uniformly available and make a fair comparison between city and city, particularly if the two are combined in the ranking.

Class Sizes

The work of a school is conducted by grouping the pupils fitted for the pursuit of the same subject into classes under instructors. This process is known as the organizing of the school, and is an extremely important item in the task of the head of the school.

School staffs are set up in accordance with the regulations of the Boston School Committee; in the high schools on a pupil-hour basis, 768 pupil-hours per week for men teachers and 704 for women teachers; in the intermediate schools on a pupils-per-teacher basis, 35 pupils per teacher in Grades VII, VIII, and IX, not including shop teachers.

Under perfect conditions teachers would have equal teaching loads and classes would be of uniform size; practically there are wide variations from the norm with the total for the school approximating the standards set. An effective organization should show a large preponderance of average-size classes with a smaller number above and below this average, and an absence of extremely large or extremely small divisions.

Boston classification limits for class sizes in high and intermediate schools are 1-14, 15-25, 26-35, 36-40, 41-45, and 46 and over pupils.

Chart 30 shows the class-size graph for Boston's entire high school system, and Chart 31 for the separate departments of the high schools.

Chart 32 shows a similar class-size graph for Boston's intermediate schools, and Chart 33 for the separate departments of the intermediate schools.

A comparison of Chart 30 with Chart 32 shows at first glance a marked difference of distribution. The 26-35 classes in the high schools constitute 46.7 per cent of the total number, while in the intermediate schools they are only 32 per cent of the total. The high schools have only 2.6 per cent of their classes under 15 pupils while the intermediate schools have 6.2 per cent; the high schools have only 4 per cent of their classes over 45 pupils while the intermediate schools have 2.5 per cent. Over 40 pupils are found in 5.5 per cent of the high school classes and in 14.8 per cent of the intermediate school classes.

The less acceptable distribution in the intermediate schools is probably due:

- a. To the smaller size of some of the schools with consequent less flexibility,

b. To the prevalence of many small divisions in shop-work, and

c. To the shorter experience of the intermediate schools with less opportunity for reaching standardization. Individual schools should obtain their own organization graph for comparison with Charts 30 or 32.

Charts 31 and 33 show the class sizes for different departments of the school curriculum. English, History, Foreign Language and Mathematics are in approximate agreement in the high schools, and also in the intermediate schools. The science laboratory variation is explainable by the general practice of dividing recitation divisions for laboratory work. There seems to be no good reason for the much greater predominance of small classes in intermediate shop work than in high school shop work; shop classes under 15 pupils in the high schools constitute 9 per cent of the total, but in the intermediate schools 23.6 per cent; shop classes of 15 to 25 constitute 52 per cent of the high school total, and 73 per cent of the intermediate total. Individual schools might well compare their departmental distribution with that for the whole group for suggestion and guidance.

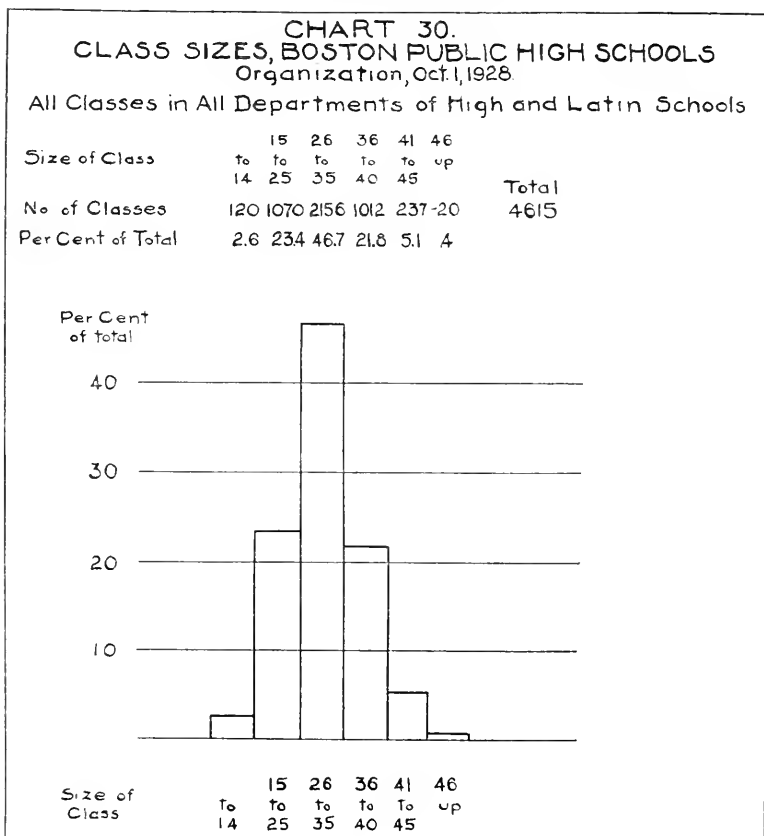
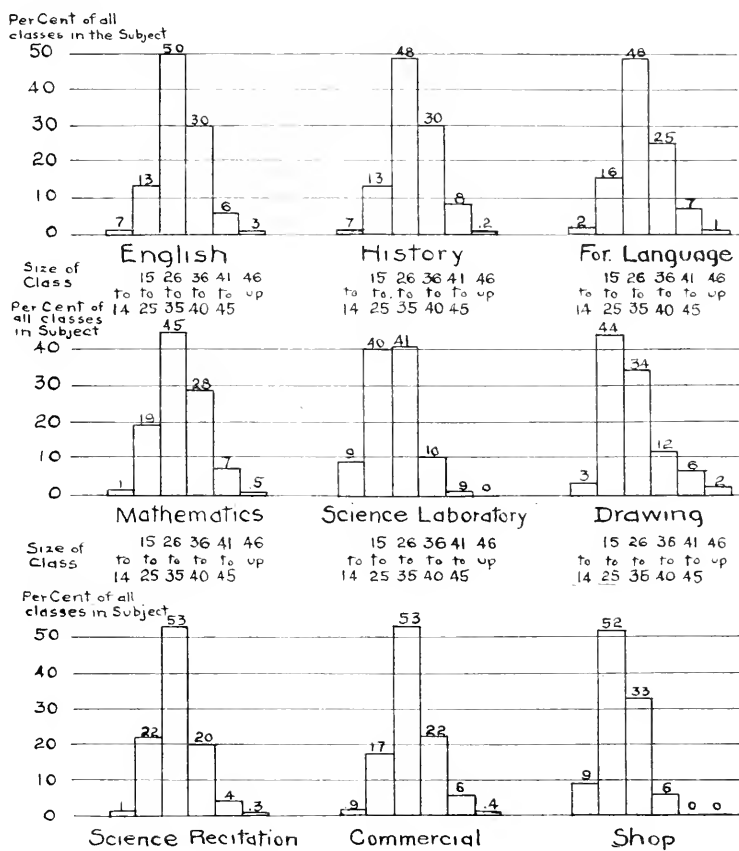


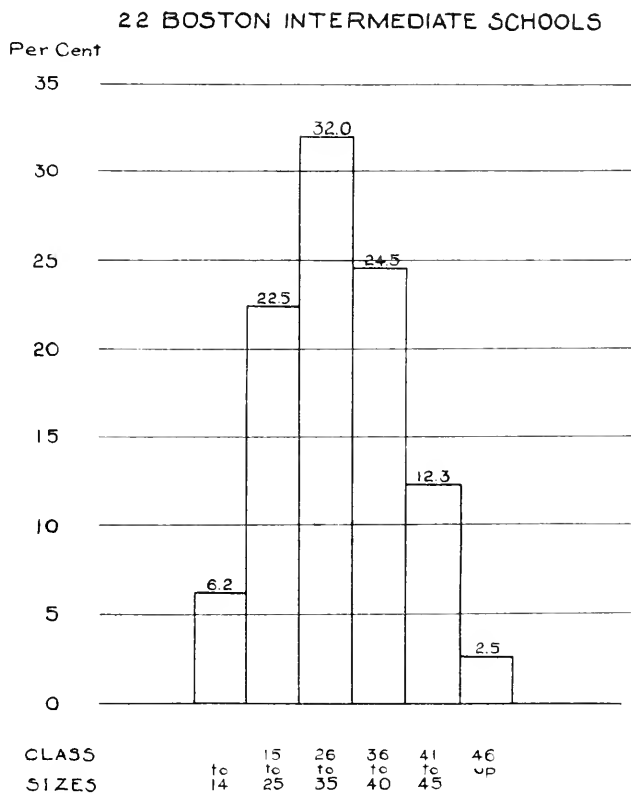
CHART 31.
CLASS SIZES, BOSTON PUBLIC HIGH SCHOOLS
 By departments, All High and Latin Schools, Oct. 1, 1928
 (Survey Committee, Boston Public Schools, 1929)

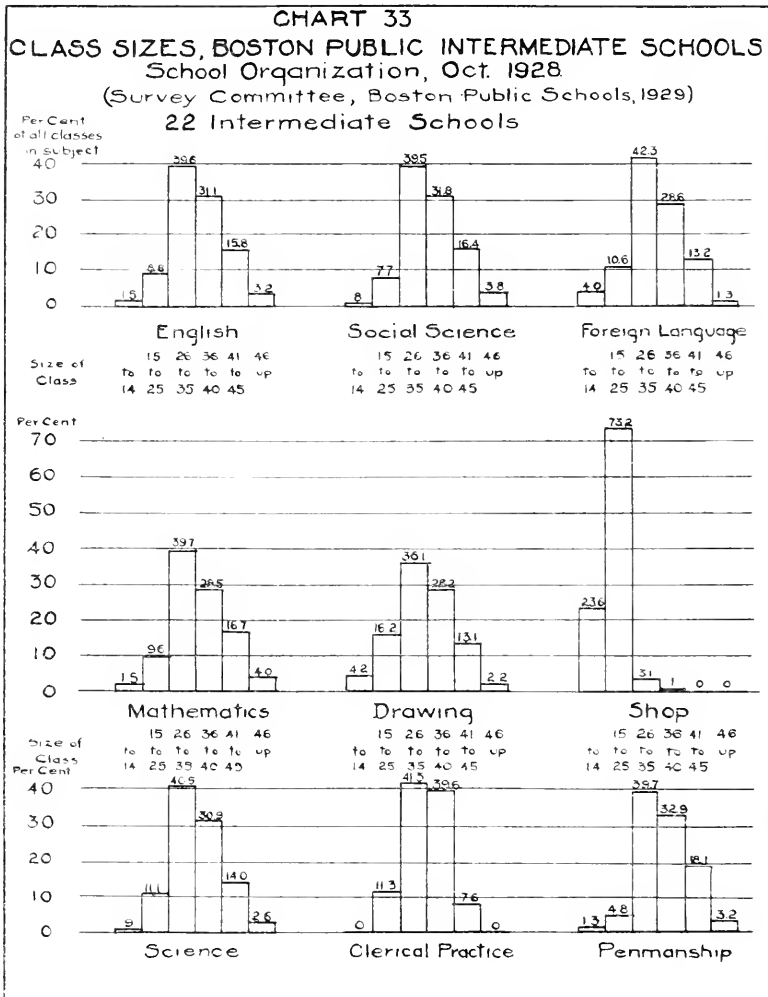


[Table with Charts 30, 31]
Class Sizes, Boston High Schools.
 (For All High and Latin Schools)
 Data from High School Organization, October 1, 1928

Departments.		Class Sizes.					
		To 14.	15 to 25.	26 to 35.	36 to 40.	41 to 45.	46 up.
English.....	No. of Divisions Per Cent.....	5 .7	100 13.0	386 50.4	230 30.0	43 5.6	2 .3
History.....	No. of Divisions Per Cent.....	3 .7	57 12.5	222 48.6	139 30.5	34 7.5	1 .2
Foreign Language.....	No. of Divisions Per Cent.....	15 2.1	116 16.3	343 48.2	179 25.1	52 7.3	7 1.0
Mathematics.....	No. of Divisions Per Cent.....	6 1.4	79 18.6	191 44.9	119 28.0	28 6.6	2 .5
Science Recitation.....	No. of Divisions Per Cent.....	5 1.3	84 21.9	203 52.8	76 19.8	15 3.9	1 .3
Science Laboratory.....	No. of Divisions Per Cent.....	31 8.9	140 40.2	141 40.5	33 9.5	3 .9	0
Commercial.....	No. of Divisions Per Cent.....	7 .9	138 17.2	427 53.3	179 22.3	47 5.9	3 .4
Drawing.....	No. of Divisions Per Cent.....	7 2.7	114 43.7	90 34.4	31 11.9	15 5.7	4 1.5
Shop.....	No. of Divisions Per Cent.....	41 8.9	242 52.3	153 33.2	26 5.6	0	0
Totals.....	No. of Divisions Per Cent.....	120 2.6	1,070 23.4	2,156 46.7	1,012 21.8	237 5.1	20 .4
							4,615

CHART 32.
 CLASS SIZES, BOSTON PUBLIC INTERMEDIATE SCHOOLS
 School Organization, Oct, 1928.
 (Survey Committee, Boston Public Schools, 1929)





[Table with Charts 32, 33]

Class Sizes, Boston Intermediate Schools.

(For All Intermediate Schools)

Data from Intermediate School Organization, October, 1928

Departments.	Class Sizes.						
	To 14.	15 to 25.	26 to 35.	36 to 40.	41 to 45.	46 up.	Total.
English.....	No. of Divisions..... Per Cent.....	10 1.5	57 8.8	258 39.6	203 31.1	103 15.8	21 3.2
Social Science.....	No. of Divisions..... Per Cent.....	9 .8	82 7.7	420 39.5	339 31.8	174 16.4	40 3.8
Foreign Language.....	No. of Divisions..... Per Cent.....	9 4.0	24 10.6	96 42.3	65 28.6	30 13.2	3 1.3
Mathematics.....	No. of Divisions..... Per Cent.....	7 1.5	44 9.6	181 39.7	130 28.5	76 16.7	18 4.0
Drawing.....	No. of Divisions..... Per Cent.....	19 4.2	73 16.2	163 36.1	127 28.2	59 13.1	10 2.2
Shop.....	No. of Divisions..... Per Cent.....	23 23.6	2 73.2	28 3.1	1 106	0 48	0 9
Science.....	No. of Divisions..... Per Cent.....	9 0	11 6	139 40.5	30 9	14 4	9 0
Business.....	No. of Divisions..... Per Cent.....	0 0	6 11.3	22 41.5	21 39.6	4 7.6	0 0
Pennmanship.....	No. of Divisions..... Per Cent.....	4 1.3	15 4.8	123 39.7	102 32.9	56 18.1	10 3.2
Totals.....	No. of Divisions..... Per Cent.....	275 6.2	1,003 22.5	1,430 32.0	1,094 24.5	550 12.3	111 2.5
							4,463

Boston's Teaching Force

Chart 34 presents the division of Boston teachers between men and women from the year 1900. The men of the schools in that year constituted 12.3 per cent of all the teachers, and in 1905 had declined to 11.5 per cent. Then came an increasing percentage of men, wavering somewhat between 1917 and 1922, and afterward gaining steadily to 20 per cent of the teaching staff in 1928.

One important factor that bears directly upon the chances of accomplishment for the average student is the size of the class that makes the working unit.

That Boston schools have recognized this factor and have made real progress in improving the opportunities of the individual pupil is clearly seen in Chart 35. The class sizes of this chart are a general average for the entire public day school system obtained by dividing the average membership of the schools by the number of teachers in the service. It will be noted that an average class of 41.6 in 1900 had dropped to 35.1 in 1910, and to 31.9 in 1920.

A slight increase took place following 1919, reaching a peak of 33.0 in 1922, from which a small steady drop is shown to 29.6 for the year 1928.

This class of 29.6 in 1928 compared with 41.6 in 1900 increases the opportunities for effective teaching in the classes of the Boston public schools.

Further reduction is always to be had at the cost of an increased teaching force, and it becomes a delicate point to determine when the added costs of instruction overbalance the educational gains of smaller classes. The theory of diminishing returns is practically applicable here; there is no such argument for a reduction from 30 to 20 as there was from 40 to 30.

CHART *34
MEN and WOMEN TEACHERS, BOSTON PUBLIC SCHOOLS
Showing Per Cent each bears to total, 1900-1928
(Survey Committee, Boston Public Schools, 1929)

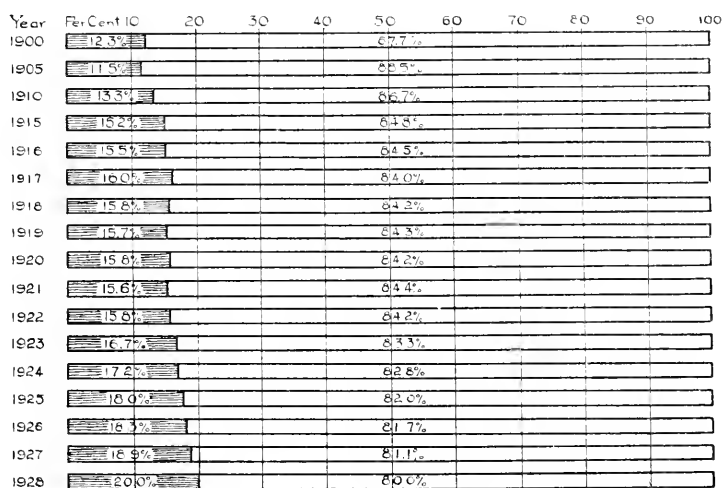
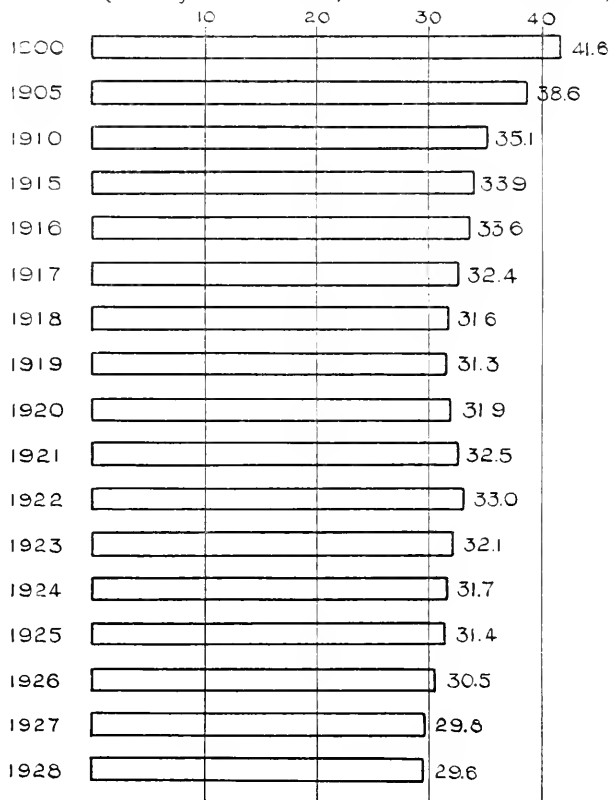


CHART #35
PUPILS per TEACHER, BOSTON PUBLIC SCHOOLS
For the entire system, 1900-1928.
(Survey Committee, Boston Public Schools, 1929)



[Table with Charts 34, 35]
Teaching Force of the Boston Public Schools
 Showing Pupils per Teacher for School System, and Per Cent of Men and Women Teachers, 1900-1928.

Year.	Average Membership of Schools.	Total Number of Teachers.	Number Pupils per Teacher.	Number Men Teachers.	Per Cent of Men Teachers.	Number Women Teachers.	Per Cent of Women Teachers.
1900.....	79,244	1,904	41.6	235	12.3	1,669	87.7
1905.....	90,645	2,347	38.6	270	11.5	2,077	88.5
1910.....	100,059	2,848	35.1	378	13.3	2,470	86.7
1915.....	109,223	3,218	33.9	488	15.2	2,730	84.8
1916.....	110,990	3,300	33.6	510	15.5	2,790	84.5
1917.....	107,153	3,305	32.4	529	16.0	2,776	84.0
1918.....	106,690	3,375	31.6	534	15.8	2,841	84.2
1919.....	106,743	3,413	31.3	536	15.7	2,877	84.3
1920.....	109,110	3,422	31.9	539	15.8	2,883	84.2
1921.....	113,410	3,489	32.5	546	15.6	2,943	84.4
1922.....	118,970	3,601	33.0	570	15.8	3,031	84.2
1923.....	121,161	3,773	32.1	629	16.7	3,144	83.3
1924.....	123,086	3,880	31.7	669	17.2	3,211	82.8
1925.....	125,115	3,987	31.4	717	18.0	3,270	82.0
1926.....	125,789	4,131	30.5	757	18.3	3,374	81.7
1927.....	127,158	4,260	29.8	808	18.9	3,452	81.1
1928.....	128,735	4,352	29.6	868	20.0	3,484	80.0

For school years ending in June.

Teaching Force, Boston Intermediate Schools, 1928=1929

As Reported in Organization of October, 1928

School.	Academic Teachers.*				Pupils per Teacher.	Number of Teachers.			Manual and Household Arts Teachers Outside Quota.	Ratio Arts to Teachers to Others.
	Number of Pupils.	Permanent.	Temporary.	Total.		On Basis of 35 Pupils to a Teacher.	Quota According to Regulations.	Excess of Quota.		
Abraham Lincoln	462	12	2	14.8	31.2	13	14	—	4.3	.29
Bennett	678	18	3	21	32.3	19	21	—	5.2	.25
Bigelow	311	7	1	8	38.9	9	9	—	2.5	.31
Donald McKay	1,079	28	4	32	33.7	31	34	—	8.0	.25
Frank V. Thompson	1,435	39	3	42	34.2	41	45	—	8.0	.19
Gaston	326	8	0	8	40.1	9	9	—	1.7	.21
Grover Cleveland	765	20	4	24	31.9	22	24	—	11.5	.48
Henry L. Pierce	606	16	2	18	33.7	17	19	—	4.4	.24
John Winthrop	434	11	2	13	33.4	12	13	—	2.0	.15
Joseph H. Barnes	1,109	31	4	35	31.7	32	34	—	10.3	.29
Lewis	894	22	5	27	33.1	26	29	—	5.3	.26
Mary Hemenway	497	14	2	16	31.1	14	15	—	4.2	.26
Michelangelo	913	24	4	28	32.6	26	29	—	7.0	.25
Norcross	249	9	1	10	24.9	7	7	3	1.9	.19
Oliver Wendell Holmes	1,091	29	3	32	34.1	31	34	—	4.6	.14
Robert Gould Shaw	581	15	2	17	34.2	17	18	—	5.4	.32
Shurtleff	262	7	1	8	32.7	7	7	—	1.8	.23
Theodore Roosevelt	760	22	2	24	31.7	22	23	—	5.0	.21
Washington	947	27	1	28	33.8	27	30	—	8.0	.29
Washington Allston	374	11	2	13	28.8	11	11	2	1.6	.12
Washington Irving	1,087	28	6	34	32.0	31	34	—	8.8	.26
William Barton Rogers †	624	17	5	22	28.4	18	20	2	5.9	.27
	15,484	415	59.8	474.8	32.6				117.4	.25

* Not including masters of the schools, teachers absent on leave or assigned elsewhere.

† Report for March, 1929.

Intermediate school staff, including Arts teachers, shows a ratio of one teacher to 26.1 pupils.

Intermediate School Costs

The Survey Committee made a study of the cost per pupil for instruction in all subjects taught in intermediate schools.

Because of the difficulty in securing exact data, the cost of equipment was not included.

The following conclusions are based upon a study made of eight typical intermediate schools, including large, medium sized, and small school units in different sections of the city.

Conclusions

1. In all but two of the eight schools studied, the average size of classes falls below the authorized standards.

2. The average instructional cost in all subjects, academic and industrial, per pupil period is \$0.072. The varying costs on this basis ranged from \$0.064 to \$0.086.

3. The cost per pupil period for all academic subjects in the eight schools studied was \$0.067, while the corresponding cost for industrial shop classes was \$0.117. The range in academic subjects per pupil period was from \$0.062 to \$0.086, while the range in industrial shop classes was from \$0.102 to \$0.155.

4. The instruction cost for intermediate instructional shop classes, exclusive of equipment, appears to be 75 per cent greater than the corresponding cost in academic subjects.

5. The small intermediate school unit is invariably the most expensive to maintain.

Instructional Costs in High Schools

A similar study was made of the instructional costs per pupil period of six representative high schools. Due to the difficulty in obtaining exact data, no consideration was given to costs of equipment and maintenance.

Conclusions

1. The average pupil period instruction cost in all subjects — academic and industrial — was \$0.113.

2. The average pupil period instruction cost in all academic subjects was \$0.111.

3. The average pupil period instruction cost of manual arts classes (boys) and practical arts classes (girls) was \$0.135.

4. The average pupil-period instruction cost in manual arts classes for boys was \$0.150 while the corresponding cost for practical arts classes for girls was \$0.094.

5. From the data, the per pupil period instruction cost of manual arts for boys is approximately 60 per cent more than the corresponding cost of practical arts classes for girls.

SECTION V

SALARIES OF TEACHERS AND MEMBERS OF THE SUPERVISING STAFF *

The Salary of the Boston Teacher

The combined salaries of the teaching force form the largest single item in the total school budget.

The salary of the Boston teacher is presented in two ways:

a. In Chart 36 the average salary paid the Boston teacher from 1900 to 1927 both in dollars and in purchasing power.

b. In Chart 37 the increases in maximum from 1916 to 1929 for the main teaching ranks.

The average salary, presented in Chart 36 by the solid black line, does not give the income of any single teacher in Boston but by comparing average salaries of different years, the general trend may be shown.

The 1900 salary of \$1,122 continued with no change through 1905, with a drop to \$1,066 in 1910 due to the 1906 salary revision. In 1915 this average salary had risen to \$1,260 and the next year to \$1,310. Only a slight change for two years was followed in 1919 by an increase to \$1,517, and then by two increases to \$1,941 in 1920 and to \$2,225 in 1921. The drop from 1922 to 1923 was due to an increase of new teachers at the lower end of the salary scale, and then are found regular moderate increases to a 1928 salary of \$2,586.

This graph of the changes in teachers' salaries would be incomplete without another graph showing the fluctuation in the purchasing power of these salaries throughout the same period. Such a study presents a truer picture of the varying economic status of the teacher.

The year 1913 has been taken as the base year by the United States Bureau of Labor for its Index of the Cost of Living, and for the years prior to 1913 it is necessary to use as a base the Index of Wholesale Prices.

The broken line of Chart 36 shows the purchasing value of this average salary in 1913 dollars. \$1,122 in 1900 was worth

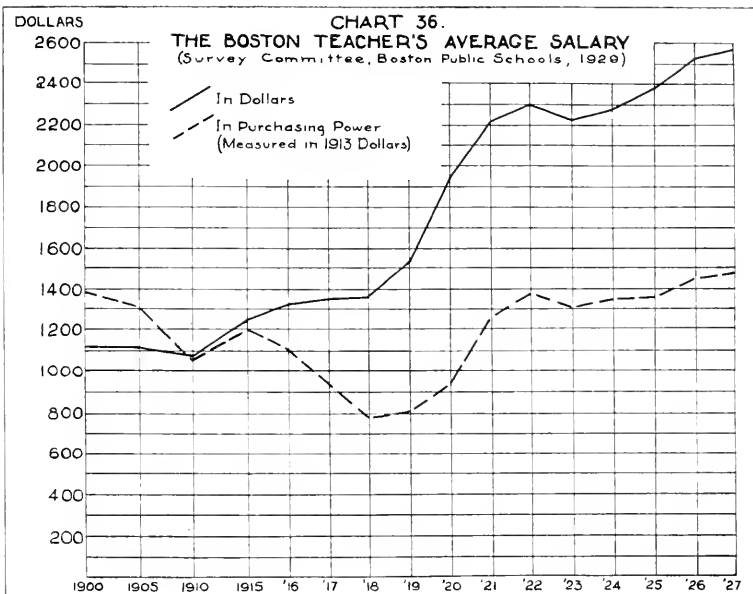
* See Part I, pages 117-118.

nearly \$1,400 of 1913 money; but the \$1,353 of the 1918 salary decreases to \$776 purchasing power in 1913 money. Then comes a rise until the \$2,560 of 1927 is worth \$1,482 in living values. The table carries this one year farther. The purchasing power of the average teacher's salary in 1900 is not reached again until 1926.

Changes in maximum salary from 1916 to 1928 for the main ranks of the teaching force are presented in Chart 37. It shows the percentage increase in salary paid over that term of years and also the percentage increase expressed in purchasing power of the 1913 dollar. One fact is instantly apparent; that salary increases have been very unevenly applied.

Chart 37 is read as follows:

The Head Master's percentage of salary increase for the year 1928 over that of 1916 in actual dollars is 38 per cent, while the percentage increase measured by the purchasing power of the salary is but 4 per cent. The data relating to other ranks is to be read in the same way.

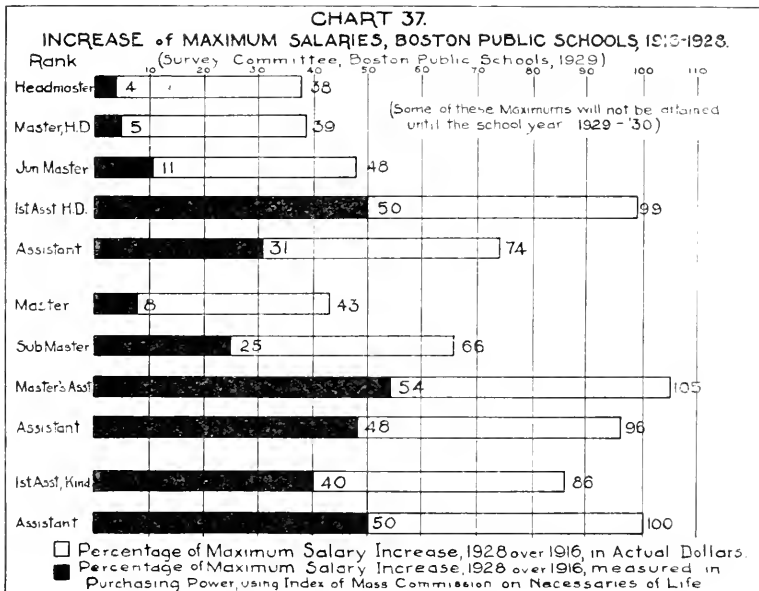


[Table with Chart 36]
The Boston Teacher's Economic Position

Year.	Number Teachers June 30.	Actual Salaries Received.		Index* of Living Costs. (1913 = 100.)	Purchase Value in 1913 Dollars.	
		In \$1,000 Units.	Dollars per Teacher.		In \$1,000 Units.	Dollars per Teacher.
1900.....	1,902	2,133	\$1,122	80.5	2,650	\$1,393
1905.....	2,341	2,631	1,124	86.2	3,052	1,304
1910.....	2,848	3,037	1,066	100.9	3,010	1,057
1915.....	3,218	4,055	1,200	105.1	3,858	1,199
1916.....	3,300	4,334	1,313	118.3	2,604	1,110
1917.....	3,305	4,419	1,337	142.4	3,104	939
1918.....	3,375	4,568	1,353	174.4	2,620	776
1919.....	3,413	5,178	1,517	188.3	2,750	806
1920.....	3,422	6,644	1,941	208.5	3,191	932
1921.....	3,489	7,763	2,225	177.3	4,379	1,255
1922.....	3,601	8,298	2,304	167.3	4,960	1,376
1923.....	3,773	8,394	2,225	171.0	4,909	1,301
1924.....	3,880	8,844	2,279	170.7	5,181	1,335
1925.....	3,987	† 9,502	2,386	175.7	5,408	1,357
1926.....	4,131	10,423	2,523	175.2	5,949	1,440
1927.....	4,260	10,905	2,560	172.7	6,315	1,482
1928.....	4,352	11,253	2,586	170.7	6,592	1,515

* Index of Living Costs: Before 1915, index of wholesale prices; 1915 and after, index of cost of living presented by United States Bureau of Labor Statistics.
 † Salaries for 1925 were 8,710 thousand dollars for 11 months; adjusted to 12 months.

Salaries per teacher throughout the Table are larger than actual, as number of teachers is of June 30, and total salaries are for the financial year.



[Table with Chart 37]
School Salaries, City of Boston
 Schedules of 1916=17 and of 1928=29.*

Rank.	1916 Minimum.	1929 Minimum.	Per Cent Increase.	1916 Maximum.	1929 Maximum.	Per Cent Increase.
HIGH SCHOOLS.						
Head Master.....	\$3,204	\$4,464	39	\$4,068	\$5,616	38
Master, Head of Department.....	2,340	2,880	23	3,204	4,464	39
Junior Master.....	1,476	2,016	37	2,628	3,588	48
First Assistant, Head of Department.....	1,332	2,008	66	1,980	3,936	99
Assistant.....	972	1,728	78	1,764	3,072	74
ELEMENTARY SCHOOLS.						
Master.....	\$2,580	\$3,888	51	\$3,420	\$4,896	43
Sub-Master.....	1,500	2,016	34	2,340	3,588	66
Master's Assistant.....	1,212	1,728	42	1,500	3,072	103
Assistant.....	600	1,248	108	1,176	2,304	96
First Assistant, Kindergarten.....	\$672	\$1,632	143	\$1,032	† \$1,920	86
Assistant, Kindergarten.....	480	1,056	120	864	† 1,728	100

* Teachers will not receive the new maximum salaries in some schedules here shown until the school year 1929-30.

† One session kindergarten.

Schedules of 1916-17 and of 1928-29 Measured in Purchasing Power of 1913 Dollars, Cost of Living

Index Figures of Massachusetts Commission on Necessaries of Life. 121.9 = Median Index for School Year 1916-17; 161.9 (September, 1928) Latest Figure Issued

Rank.	1916 Minimum.	1929 Minimum.	Per Cent Increase.	1916 Maximum.	1929 Maximum.	Per Cent Increase.
HIGH SCHOOLS.						
Head Master.....	\$2,625	\$2,757	5	\$3,337	\$3,469	4
Master, Head of Department.....	1,920	1,779	* 7	2,625	2,757	5
Junior Master.....	1,211	1,245	3	2,156	2,401	11
First Assistant, Head of Department.....	1,093	1,364	* 25	1,625	2,431	50
Assistant.....	797	1,067	34	1,446	1,897	31
ELEMENTARY SCHOOLS.						
Master.....	\$2,117	\$2,401	13	\$2,896	\$3,024	8
Sub-Master.....	1,231	1,245	1	1,920	2,401	25
Master's Assistant.....	994	1,067	* 7	1,231	1,897	54
Assistant.....	492	771	57	965	1,423	48
First Assistant, Kindergarten.....	\$551	\$1,008	83	\$847	\$1,186	40
Assistant, Kindergarten.....	393	652	66	709	1,067	50

* Not significant, practically no appointments at the minimum.

† Decrease.

The per cent increase column of this table shows the relative economic status of the 1928-29 teacher compared with the status of the 1916-17 teacher.

The table presents figures for only the larger teaching groups.

Salary Maximums, School Positions of Twelve Large Cities of the United States

Arranged by Maximum Salary Paid in the Different Positions

Superintendent.	Assistant Superintendent.			Head, High School.		
	New York	Chicago	New York	New York	New York	New York
New York	.	\$25,000	.	\$12,500	.	\$10,000
Detroit	.	17,000	.	10,000	.	7,000
Chicago	.	15,000	.	10,000	.	6,500
Boston	.	12,000	Newark	8,500	Buffalo	6,000
Cleveland	.	12,000	Cleveland	.	Detroit	6,000
Newark	.	12,000	St. Louis	8,000	St. Louis	6,000
Philadelphia	.	12,000	Boston	7,500	Chicago	5,700
Buffalo	.	11,000	Philadelphia	7,000	Boston	5,616
St. Louis	.	11,000	Baltimore	6,000	Philadelphia	5,500
Baltimore	.	10,000	Buffalo	6,000	Los Angeles	5,100
Los Angeles	.	10,000	Los Angeles	*	Baltimore	5,000
San Francisco	.	10,000	San Francisco	*	San Francisco	4,500
Head, Junior High School.	Elementary Principal.			High School, Head of Department.		
	New York	Detroit	Newark	New York	Newark	Newark
New York	\$7,500	.	.	\$7,000	.	\$5,688
Newark	.	5,900	.	5,700	.	4,600
Cleveland	.	5,800	Newark	.	Boston (man)	4,464
Detroit	.	5,700	St. Louis	5,000	Philadelphia	4,000
St. Louis	.	5,500	Boston	4,896	St. Louis	4,000
Philadelphia	.	5,000	Chicago	4,800	Boston (woman)	3,936
Boston	.	4,896	Buffalo	4,500	Cleveland	3,800
Chicago	.	4,800	Philadelphia	4,500	Detroit	3,500
Buffalo	.	4,500	Cleveland	4,170	Los Angeles	3,500
Los Angeles	.	4,400	Los Angeles	3,900	Baltimore	3,200
Baltimore	.	4,200	Baltimore	3,800	Buffalo	3,100
San Francisco	.	4,020	San Francisco	3,720	Chicago	*
					San Francisco	*

* Not available.

Sub-Master.		High School Teacher.		Junior High School Teacher.	
New York	.	New York	.	New York	.
Boston (man)	\$4,620	Newark	.	Newark	\$3,600
Newark	3,888	Boston (man)	.	Chicago	3,400
Cleveland	3,400	Chicago	.	Cleveland	3,300
Boston (woman)	3,080	Cleveland	.	Detroit	3,240
Detroit	3,072	Philadelphia	.	Los Angeles	3,200
St. Louis	2,700	Detroit	.	Philadelphia	3,040
Los Angeles	2,700	Boston (woman)	.	Baltimore	2,800
Baltimore	2,440	Los Angeles	.	San Francisco	2,600
Buffalo	2,400	Baltimore	.	Boston	2,600
Chicago	2,300	St. Louis	.	St. Louis	2,400
Philadelphia	*	San Francisco	.	Buffalo	2,250
San Francisco	*	Buffalo	2,700		2,050
		Elementary Teacher.			
		Newark	\$3,200		
		New York	3,144		
		Cleveland	2,880		
		Chicago	2,500		
		Los Angeles	2,440		
		Detroit	2,400		
		Philadelphia	2,400		
		San Francisco	2,400		
		Boston	2,304		
		Baltimore	2,200		
		Buffalo	2,000		
		St. Louis	2,000		

* Not available.

New York has established super-maximum salaries to be available later:

{ High school teacher, \$4,650;
 { Junior High teacher, \$4,200;
 { Elementary teacher, \$3,504.

School Committee Appropriations, 1914-1928, for Salaries

Year.	Teachers College.	High and Latin.	Intermediate and Elementary.	Special Schools and Departments.	Officers.	Custodians and Matrons.
1914.....	\$34,297 70	\$945,280 48	\$2,672,450 66	\$451,971 16	\$150,290 00	\$340,000 00
1915.....	34,987 20	1,010,730 80	2,667,904 74	506,593 46	159,348 80	344,000 00
1916.....	38,259 67	1,078,679 14	2,700,557 31	596,236 90	152,725 82	349,221 00
1917.....	39,689 37	1,115,118 02	2,698,493 82	607,049 49	151,245 56	353,000 00
1918.....	39,474 60	1,101,263 10	2,762,994 87	718,367 34	155,105 20	378,040 76
1919.....	37,473 54	1,181,397 02	3,247,875 14	714,120 26	172,277 14	420,286 39
1920 *.....	48,799 78	1,568,673 59	4,212,886 70	930,183 28	206,872 90	545,927 08
1921 *.....	51,579 54	1,668,849 92	5,080,859 57	1,120,260 78	216,633 71	557,339 51
1922.....	55,223 56	1,792,379 64	5,288,835 41	1,182,928 36	234,716 44	586,778 32
1923.....	83,592 48	1,919,836 50	5,408,862 31	1,234,745 32	244,566 81	607,445 25
1924.....	94,237 20	2,044,357 98	5,679,030 25	1,284,691 15	259,482 52	659,497 98
1925.....	110,758 27	2,058,869 60	5,590,433 18	1,311,936 76	268,330 10	665,381 41
1926.....	138,161 00	2,515,063 17	6,643,992 76	1,682,989 99	327,434 20	763,293 70
1927.....	167,172 00	2,542,417 00	6,740,412 00	1,784,561 00	358,343 73	823,485 83
1928.....	172,479 00	2,667,909 60	6,841,315 20	1,866,734 44	378,258 55	845,710 04
Increase 1914-1928.....	403%	182%	156%	313%	152%	149%

* Salary increases for instruction, appropriated as lump sum in 1920 and 1921, apportioned to The Teachers College, High and Latin, Intermediate and Elementary, and Special Schools and Departments.

SECTION VI

BUILDING PROJECTS IN CERTAIN SCHOOL DISTRICTS *

(a) High School Accommodations in Roxbury and
Dorchester

Pupil Membership, 1919-1928

1.	1919.	1928.	
	Roxbury High:	Memorial High:	
	1,310	Girls . . .	2,474
		Boys . . .	872
		Total . . .	3,346
2.	Excess of 1928 over 1919 in Roxbury:		
	3,346 — 1,310 = 2,036		
3.	1919.	1928.	
	Dorchester High:	Dorchester High:	
	2,034	Girls . . .	1,864
		Boys . . .	1,828
		Total . . .	3,692
4.	Excess of 1928 over 1919 in Dorchester:		
	3,692 — 2,034 = 1,658		
5.	Total actual high school pupil increase, 1919-1928:		
	Roxbury		2,036
	Dorchester		1,658
	Total		3,694

Growth in Pupil Accommodations

6 a.	Additional Accommodations provided in Roxbury and Dorchester:		
	a.	Memorial High (Girls)	1,540
	b.	Memorial High (Boys)	1,540
	c.	Dorchester High (Boys)	1,540
		Total	4,620
b.	Comparison of pupil increase with new accommodations:		
		Increase of pupils, 1919-1928	3,694
		Increase in accommodations, 1919-1928	4,620
		Excess of new accommodations over pupil growth, 1919-1928	926

* See Part I, pages 74-84, A Study of the Growth and Shifting of Population as Related to a Building Program.

7. Further suggestions for additional high school accommodations:
- a. Annex to Dorchester High School for Girls.
 - b. Annex to Dorchester High School for Boys.
 - c. Wellington Hill Intermediate School.
 - d. Henry L. Pierce Intermediate School.
 - e. Additional accommodations for Girls Latin School.
 - f. Annex to Public Latin School.
 - g. Accommodations at High School of Commerce.
 - h. Accommodations at Boston Clerical School.
 - i. Construction of new Girls' High School.

Conclusion

If annexes and new construction are provided as suggested, it is the opinion of the Survey Committee that the problem of high school accommodations for these sections will be reasonably solved for the next few years.

The suggested plan takes full advantage of land already owned by the city and provides for a growth of over 3,000 students.

It will be an economical procedure and provide satisfactory educational opportunities for boys and girls of high school age in these sections.

Intermediate Building Program, Dorchester District, October, 1928

	VI.	VII.	VIII.	Total.
Frank V. Thompson.....	—	497	474	971
Roger Wolcott.....	404	—	—	404
Emily A. Fifield.....	226	—	—	226
Robert Treat Paine.....	165	—	—	165
Edmund P. Tileston.....	196	159	138	493
Trescott.....	50	50	50	150
Gilbert Stuart.....	70	80	68	218
Henry L. Pierce.....	—	206	230	436
Prospective Intermediates.....	1,111	992	960	3,063

It is proposed to build two 40-room intermediate schools, one to be completed in 1930 and one in 1931. The figures do not include any pupils from the Minot District, a part of which district is included in the proposed Henry L. Pierce Intermediate School.

The Solomon Lewenberg School on Wellington Hill was designed by the Schoolhouse Commission to accommodate 1,400 pupils. Allowing for special rooms, there are accommodations for 1,557 pupils.

On such a basis, two new 40-room intermediate

schools would care for	3,114 pupils
Frank V. Thompson	1,020 pupils

A total of	4,134 pupils
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adequately providing for considerable future growth in this section.

(b) Proposed Intermediate School in the Bowditch District

Plans for forty-room Intermediate School, Pershing Road,
\$50,000

1. Trend of school population in elementary districts in Jamaica Plain:

a. Agassiz District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
758	728	749	742	767	778	775	755	796	763

b. Bowditch District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
1,150	1,143	1,185	1,164	1,134	1,090	1,095	1,108	1,169	1,307

c. Lowell District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
1,172	1,202	1,188	1,195	1,285	1,193	1,248	1,225	1,205	1,207

d. Jefferson=Comins District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
1,406	1,417	1,465	1,436	1,461	1,516	1,600	1,565	1,503	1,468

2. Trend of school population in Grades VI, VII, and VIII for period 1919-1928:

School Year 1919.	VI.	VII.	VIII.	Total.
Agassiz	87	80	84	251
Bowditch	118	100	84	302
Lowell	113	110	109	332
Jefferson-Comins	181	121	116	418
Total	499	411	393	1,303

School Year 1928.	VI.	VII.	VIII.	Total.
Agassiz.....	81	71	64	216
Bowditch.....	111	116	95	322
Lowell.....	117	120	123	360
Jefferson-Comins.....	142	150	142	434
Total.....	451	457	424	1,332

Other factors to be considered in deciding on the need of a forty-room intermediate school on Pershing road, Jamaica Plain:

1. New land development on Moss Hill, Jamaica Plain.
2. There are now 354 pupils in portables in the Bowditch District.
3. Hillside School should be abandoned or extensively remodeled. (Built in 1858 — six rooms — sides of building bulging.)

(c) **Proposed Intermediate School in the Everett District,
South End**

1. Trend of school population in South End, 1919-1928:

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
3,554	3,673	3,814	3,993	4,242	4,229	4,077	3,919	3,816	3,648

2. Increases and decreases in school population in elementary schools in South End, 1919-1928. (Increase in light type; decrease in heavy type):

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
117	119	141	179	249	—13	—152	—158	—103	—168

3. Trend of school population in South End in Grades VI, VII, VIII:

School Year 1919.	VI.	VII.	VIII.	Total.
Dwight.....	121	84	50	255
Everett.....	87	74	60	221
Hyde.....	101	79	74	254
Sherwin.....	77	39	54	170
Total.....	386	276	238	900

School Year 1928.	VI.	VII.	VIII.	Total.
Dwight.....	98	72	64	234
Everett.....	72	63	70	205
Hyde.....	39	62	37	138
Sherwin.....	85	81	78	244
Total.....	294	278	249	821

4. Dates of construction of elementary school buildings in South End:

Louisa May Alcott	1845
Frances E. Willard	1851
Dwight (VIII)	1857
Everett (VIII)	1860
Sherwin (VIII)	1870
Asa Gray	1877
Hyde (VIII)	1884
Joshua Bates	1884
Ira Allen	1901
Lafayette	1911
George T. Angell	1912

5. Data relating to capacity of present school buildings in South End:

NOVEMBER, 1928

District.	Number of Addi- tional Pupils that can be Accommodated.	Number of Portables.
Dwight.....	0	1
Everett.....	0	2
Hyde.....	46	1
Sherwin.....	106	0
Total.....	152	4

Abraham Lincoln District

1. Trend of population, 1919-1928:

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
2,052	2,151	2,242	2,187	2,034	1,888	1,585	1,406	1,454	1,305

For the period, 1919-1928, there has been a loss of 747 pupils in the Abraham Lincoln School.

2. Trend of school population in Grades VI, VII, and VIII, in Abraham Lincoln School, 1919-1928:

	VI.	VII.	VIII.	Total.
1919.....	211	222	149	582
1928.....	179	168	171	518
Net gain or loss.....	-32	-54	+22	-64

In 1928 — No portables in use.

November 8, 1928 — 260 additional pupils could be accommodated in Abraham Lincoln Building.

3. Trend of school population in Franklin and Rice Districts, South End:

Franklin District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
1,081	1,095	1,115	1,098	1,137	1,119	1,049	1,023	1,002	983

Net decrease, 1919-1928 = 98.

Rice District

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
918	939	1,012	1,017	1,079	1,140	1,113	1,074	999	966

Net increase, 1919-1928 = 48.

NOTE.—For the period 1924-1928, there has been a decrease of 174.

4. Trend of school population in Grades VI, VII, VIII in Franklin and Rice Districts, South End, 1919-1928:

School Year 1919.	VI.	VII.	VIII.	Total.
Franklin.....	78	63	43	184
Rice.....	114	96	85	295
Total.....	192	159	128	479
School Year 1928.	VI.	VII.	VIII.	Total.
Franklin.....	90	69	71	230
Rice.....	143	141	146	430
Total.....	233	210	217	660

Net increase, 1919-1928 = 181.

Study of Grades VI, VII, VIII, in Roxbury

South End

	VI.		VII.		VIII.		Total.	
	1919.	1928.	1919.	1928.	1919.	1928.	1919.	1928.
Dwight.....	121	98	84	72	50	64	255	234
Hyde.....	101	72	79	63	74	70	254	205
Sherwin.....	77	39	39	62	54	37	170	138
Everett.....	87	85	74	81	60	78	221	244
Total.....	386	294	276	278	238	249	900	821

It is understood that the proposed new Intermediate School is to be a 24-room building with shops for boys and girls. Counting only classrooms to determine building capacity the proposed new building would care for 24 times 40 or 960 pupils.

In the districts concerned, the following buildings are on the ten-year replacement list of the Schoolhouse Commission:

Louisa May Alcott.

Dwight.

Frances E. Willard.

Study of Grades VI, VII, VIII, in Roxbury

Dudley, Dillaway and Jefferson-Comins Districts

(OCTOBER, 1928, REPORTS)

	VI.	VII.	VIII.	Total.
Dudley.....	121	116	98	335
Dillaway.....	114	117	98	329
Jefferson-Comins (50 per cent).....	73	77	72	222
Total.....	308	310	268	886

The following buildings are on the ten-year list of the Schoolhouse Commission for replacement:

Comins.

Louis Prang.

(d) Data Relating to the Organization of Intermediate Schools in Brighton

1. Brighton High School. Growth, 1919-1928.

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
582	589	761	842	848	931	858	892	992	1,093

There are at present 12 portables in the yard of the Brighton High School, all housing pupils in the cooperative industrial course. The proposed new high school will eliminate the use of portables.

2. Number of pupils now in main building and portables . . . 1,093
There are at present in Grade IX, Brighton High School 210

3. Trend of total elementary and intermediate school population in Brighton 1919 through 1928:

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
4,487	4,479	4,525	4,655	4,860	4,943	5,173	5,523	5,652	5,688

4. Increases and decreases in school population in Brighton.
(Increase in light type; decrease in heavy type.)

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
247	—8	46	130	205	83	230	350	129	36

5. Trend of school population in Grades VI, VII, VIII:

SCHOOL YEAR 1919.

School.	VI.	VII.	VIII.	Total.
Bennett.....	195	152	118	465
Thomas Gardner.....	191	116	73	380
Washington Allston.....	166	140	128	434
Total.....	552	408	319	1,279
October 1, 1928.	VI.	VII.	VIII.	Total.
Bennett.....	287	259	235	781
Thomas Gardner.....	195	151	145	491
Washington Allston.....	145	137	133	415
Total.....	627	547	513	1,687

6. Percentage of increase for Grades VI, VII, VIII, by districts,
1919-1928:

Bennett	68%
Thomas Gardner	29%
Washington Allston	4% decrease
Total	32%

7. Number of pupils in Grades VII, VIII and IX, in present
Brighton intermediate districts:

(OCTOBER 1, 1928)

School.	VII.	VIII.	IX.	Total.
Bennett.....	259	235	195	689
Washington Allston.....	137	133	119	389
Total.....	396	368	314	1,078

8. Dates of construction of all Brighton school buildings:

Brighton High	1895
Bennett	1874
Bennett Branch	1886
Winship	1901
James A. Garfield	1925
Mary Lyon	1914
Alexander Hamilton	1924
Mary L. Brock	1897
Hobart Street	1884
Oak Square	1894
Harriet A. Baldwin	1927
Thomas Gardner	1906
Thomas Gardner Annex	1873
William Wirt Warren	1892
James J. Storrow	1926
Auburn	1856
Harvard	1848
Washington Allston	1879
Washington Allston Annex	1889
Andrew Jackson	1924
Frederic A. Whitney	1899

Brighton District
(OCTOBER, 1928, REPORTS)

District.	VI.	VII.	VIII.	Total.
Bennett.....	287	259	235	781
Thomas Gardner.....	192	151	145	488
Washington Allston.....	145	136	133	414
Total.....	624	546	513	1,683

Prospective number of pupils to form an Intermediate school 1,683

Total rooms available:

Proposed new intermediate school	40
Present Old Brighton High School	27
Total	67

The new intermediate school proposed for the Bennett District and the old Brighton High School building adequately provide for considerable future growth in this section.

(e) Special Report Relating to the Need of a New Intermediate School Building in Charlestown

Main considerations and recommendations

1. It appears that there are now no school buildings in Charlestown that are structurally dangerous. This statement is based upon a letter received from the Chairman of the School-house Commission under date of December 12, 1928.

2. The demolition of any school buildings in Charlestown at the present time does not appear to be justifiable.

3. The elementary schools in Charlestown are now organized with intermediate classes in Grades VII and VIII, as is done elsewhere throughout the city.

4. The elementary school population in Charlestown has decreased progressively in the last four years.

5. At the present time more than 1,000 additional pupils could be accommodated in existing elementary school buildings in Charlestown.

6. In Charlestown the school population of elementary schools is divided between the public and parochial schools on a ratio of 3 to 2.

7. Under the present organization of the public schools in Charlestown all ninth grade instruction is given in the high school whether the pupils come from public or parochial elementary schools.

8. At the present time the high school building is not overcrowded and can accommodate a few more pupils without crowding. This statement is made by the Head Master of the Charlestown High School.

9. Such additional school accommodations as may be necessary in the Charlestown district in the next few years will naturally come in the high school which is providing high school education for both public and parochial schools.

10. Provision for the ninth grade instruction of parochial school children should continue to be made in the Charlestown High School. To provide a new and separate building in Charlestown for an intermediate school would be a duplication of the ninth grade organization already provided in the high school.

11. If it is thought desirable to have seventh and eighth grade intermediate classes in one school unit, this can be done

with little or no new construction. Ninth grade instruction can continue as now to be provided for in the Charlestown High School.

12. The several factors that have been considered in connection with this problem are appended.

Recommendations

1. In view of these considerations, the Survey Committee recommends that the School Committee consider the advisability of withdrawing any appropriation made for land in Charlestown on which it was planned to construct a new intermediate school building.

2. That the School Committee notify the Schoolhouse Commission that it does not now desire or need school accommodations in the Charlestown district for which an appropriation has been made.

Data Relating to the Present Elementary and High School Organization in Charlestown

1. Charlestown High School

- a. High school population, December 1, 1928 — total, 641 pupils. Grade IX, 213 academic pupils; 38 cooperative industrial pupils.

The Head Master states that the building could hold a few more pupils at the present time without crowding.

- b. Trend of school population in Charlestown High School for the past ten years:

Year.	Number of Pupils.	Year.	Number of Pupils.
1919.....	539	1924.....	867
1920.....	519	1925.....	947
1921.....	695	1926.....	975
1922.....	758	1927.....	999
1923.....	764	1928.....	973

There is at present one portable annex with 35 pupils in the Frothingham School yard.

2. Trend of school population in the elementary districts in Charlestown. (Increase in light type; decrease in heavy type.)

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
-39	130	163	9	159	76	-24	-30	-169	-212

3. Trend of school population in Grades VI, VII, and VIII, for the period 1919-1928.

School Year 1919.	VI.	VII.	VIII.	Total.
Warren-Bunker Hill.....	187	160	157	504
Harvard-Frothingham.....	137	124	106	367
Prescott.....	76	64	65	205
Total.....	400	348	328	1,076

October 1, 1928.	VI.	VII.	VIII.	Total.
Warren-Bunker Hill.....	190	183	168	541
Harvard-Frothingham.....	119	122	96	337
Prescott.....	98	76	67	241
Total.....	407	381	331	1,119

4. Dates of construction of all Charlestown school buildings:

Harvard *	1871
Frothingham *	1874
Frothingham Annex	1898
Samuel Dexter (remodeled in 1872)	1800
Nahum Chapin	1847
William H. Kent	1895
Prescott *	1857
Prescott Annex	1896
James A. McDonald	1911
Abram E. Cutter	1886
Warren *	1867
Copley	1901
Oliver Holden	1910
Charles E. Daniels	1847
Bunker Hill *	1866
Thomas Starr King	1845
B. F. Tweed	1892
Charlestown High	1907
Spencer Memorial Annex	1926

* Eight-grade buildings.

5. From the preceding data, the following facts are apparent:

		Per cent of total.
Number built prior to 1870	7	37%
Number built 1871-1880	2	11%
Number built 1881-1890	1	5%
Number built 1891-1900	4	20%
Number built 1901-1910	3	16%
Number built 1911-1920	1	5%
Number built 1920-1928	1	5%

Total number of buildings 19

6. There are three large parochial schools in Charlestown.
7. Vacant seats in the school buildings at the present time, as reported by the principals of the districts:

Harvard	146	
Frothingham	169	
Samuel Dexter	70	
Nahum Chapin	49	
William H. Kent	94	
Total	—	528
Prescott	91	
Prescott Annex	5	
Abram E. Cutter	12	
James A. McDonald	48	
James A. McDonald Portable	9	
Total	—	165
Warren	64	
Copley	62	
Oliver Holden	20	
Charles E. Daniels	25	
Bunker Hill	73	
Thomas Starr King	47	
B. F. Tweed	49	
Total	—	340
Total vacant seats		1,033

SECTION VII

INFORMATION RELATING TO THE TEACHERS COLLEGE OF THE CITY OF BOSTON *

Courses of Study

By action of the School Committee on June 3, 1929, the three-year non-degree courses in The Teachers College will be discontinued for classes entering in September, 1930, and thereafter.

From that date, all courses in The Teachers College will be degree-bearing courses — four-year courses with the degree of Bachelor of Education or Bachelor of Science in Education, and a five-year course with the degree of Master of Education.

Pupils now in The Teachers College are not affected by this action of the School Committee. In other words, those pupils now in The Teachers College who elected one of the three-year courses, namely, the course which qualifies for service in Grades I to VI, inclusive, or the course which qualifies for service in the kindergarten and Grades I to III, inclusive — will be privileged to complete the course.

Pupils who enter in September, 1930, and thereafter until otherwise ordered, will have a choice of the following-named degree-bearing courses, each of which will be four years in length:

a. Kindergarten=Primary Course.— The successful completion of this course will qualify for temporary service in the Kindergarten and Grades I and II.

b. Elementary Course.— The successful completion of this course will qualify for temporary service in Grades III to VI, inclusive.

c. Intermediate Course.— The successful completion of this course will qualify for temporary service in Grades VII to IX, inclusive.

d. High School Course.— The successful completion of this course will qualify for temporary service in Grades IX to XII, inclusive, and leads to the course for the Master's Degree.

In June, 1934, and thereafter, graduates of The Teachers College, upon completion of one year's successful experience

* See Part I, pages 52-55.

in teaching, will be examined for Certificates VIII. Elementary School, Class B; X. Kindergarten-Primary; XXXIII. Intermediate; or IV. High School, depending upon the course completed in The Teachers College. No certificates will be granted except on examination.

After June, 1934, there will be no preferred lists for The Teachers College graduates. From that date graduates of The Teachers College will compete by examination with all others who are seeking the same certificates, and their names will be merged with the names of all others who have qualified by examination for the same certificate.

Beginning in September, 1930, men and women graduates of other colleges may be admitted to the Master's Degree Course, in addition to those admitted from the High School Course in The Teachers College, subject to the following restrictions:

- a. The maximum number of this group to be admitted in any year shall not exceed fifteen.
- b. The major in which students are to be examined shall be in a field offered in the curriculum of The Teachers College.
- c. Candidates shall be accepted in the order of the total number of credits obtained in the competitive examination.
- d. The subjects of examination will be determined later by the Board of Superintendents.

Information Relating to The Teachers College of the City of Boston

1. How many pupils have availed themselves since the College was established of the courses leading to degrees?

Total enrolment in class of 1925	. . .	36
Total enrolment in class of 1926	. . .	53
Total enrolment in class of 1927	. . .	35
Total enrolment in class of 1928	. . .	55
Total enrolment in class of 1929	. . .	56
Total enrolment in class of 1930	. . .	70
Total enrolment in class of 1931	. . .	60
Total enrolment in class of 1932	. . .	71
		<hr/>
Total		436

2. How many pupils have completed the courses and have received degrees?

Of those receiving degrees in:

1925	20 received degree of Bachelor of Education. 12 received degree of Bachelor of Science in Education.
1926	26 received degree of Bachelor of Education. 22 received degree of Bachelor of Science in Education.
1927	18 received degree of Bachelor of Education. 14 received degree of Bachelor of Science in Education.
1928	35 received degree of Bachelor of Education. 17 received degree of Bachelor of Science in Education.

The following are the numbers of students in each class still studying at The Teachers College:

Class of 1929	49
Class of 1930	64
Class of 1931	55
Class of 1932	68
Total	<hr/> 236

Of those at present in The Teachers College in the

Class of 1929	28 are candidates for the degree of Bachelor of Education. 21 for the Bachelor of Science in Education.
Class of 1930	33 Bachelor of Education. 31 Bachelor of Science in Education.
Class of 1931	22 Bachelor of Education. 33 Bachelor of Science in Education.
Class of 1932	37 Bachelor of Education. 31 Bachelor of Science in Education.

Summary of total number of graduates receiving degrees.

Class of 1925	32
Class of 1926	48
Class of 1927	32
Class of 1928	52
Total	<hr/> 164

3. Of the foregoing pupils, namely 164, how many are teaching in Boston today, or are on the eligible list for appointment?

Appointed	64
On the Eligible List	75
Total	<hr/> 139

The remaining 25 have either left the service, been married, or are studying.

4. Since the organization of The Teachers College how many have taken the course leading to the degree of Master of Education (Ed. M.), making them eligible to teach in high school?

Class of 1926	12
Class of 1927	21
Class of 1928	14
	<hr/>
Total	47
Of this number:	
Appointed	23
On Eligible List	22
Married	1
Convent	1
	<hr/>
Total	47

5. How do the courses differ for those pupils who are preparing to teach in the elementary grades and those preparing to earn the first degree, that is, to teach in the intermediate grades?

a. Length: For those preparing to teach in the elementary grades the course is three years in length; for those preparing to teach in the intermediate grades the course is four years in length. Those finishing this four-years' course receive the degree of Bachelor of Education.

b. General Differences:

1. Those preparing to teach in the intermediate grades specialize in one academic subject and receive special training in one or two others.
2. Those preparing to teach in the elementary grades do not specialize in any particular academic subjects. They receive general training in English, Science, and Education, and special training in the content and method of the various subjects taught in these grades.

- c. A statement of the Course of Study for each of the two groups follows:

FIRST YEAR

Intermediate

1. Psychology 3 hours a week.
2. English Composition 4 hours a week.
3. Two academic subjects selected from the following (each four hours a week):
 History
 Mathematics
 Science (Biology)
 Foreign language (French, Spanish, Latin)
4. Art Appreciation 2 hours a week.
5. Physical Education 2 hours a week.

Elementary

1. Psychology 3 hours a week.
2. English Composition 2 hours a week.
3. Elementary Education. (A consideration of the aims and purposes of education in the elementary schools) 2 hours a week.
4. Biology 4 hours a week.
5. Music (one semester) 3 hours a week.
6. Art (one semester) 3 hours a week.
7. Oral Expression (one semester) 3 hours a week.
8. Physical Education 2 hours a week.
9. Observation in the Model School 2 hours a week.

SECOND YEAR

Intermediate

1. Principles of Education 3 hours a week.
2. English (History of English Literature) 4 hours a week.
3. Two academic subjects from list under first year with the exception that Geography is substituted for History, 4 hours each.
4. Music Appreciation 2 hours a week.
5. Physical Education 2 hours a week.

Elementary

1. Education (Problems of Elementary Education) 2 hours a week.
2. English (Teaching of English in Elementary Grades) 4 hours a week.
3. Health Education 4 hours a week.
4. Mathematics (Content and Teaching of Elementary Mathematics) 4 hours a week.
5. Geography (Elementary Geography), 3 hours a week.
6. Physical Education 2 hours a week.
7. Music 1 hour a week.
8. Penmanship 1 hour a week.

THIRD YEAR**Intermediate**

1. History of Education (one semester) 3 hours a week.
2. Intermediate School Problems (one semester) 3 hours a week.
3. Government 4 hours a week.
4. Major Elective chosen from the following:

English	Spanish	Science	}	4 hours a week.
Latin	History	Mathematics		
French	Geography	Art		
5. Minor Elective chosen from subjects in above list 4 hours a week.
6. Physical Education 2 hours a week.

Elementary

1. Practice Teaching 1 semester.
2. History and Principles of Education 3 hours a week.
3. English Literature 4 hours a week.
4. History in the Grades 3 hours a week.
5. Teaching of Geography in the Elementary Grades 3 hours a week.
6. Methods of Teaching Art (one-half semester) 3 hours a week.
7. Music Methods (one-half semester) 3 hours a week.
8. Physical Education 2 hours a week.

FOURTH YEAR.**Intermediate**

1. Practice Teaching 1 semester.
2. Education (Administration and Research) 4 hours a week.
3. Educational Sociology 3 hours a week.
4. Major Elective (same as Major Elective in Third Year) 4 hours a week.
5. Minor Elective (chosen from list of subjects given in Third Year) 4 hours a week.
6. Physical Education 2 hours a week.

Data Relating to the Certification of Teachers of High and Intermediate Schools With Special Reference to Graduates of The Teachers College of the City of Boston

High School Certificate — 1926

No candidate from Teachers College.

High School Certificate — 1927

157 candidates examined.

24 candidates from Teachers College.

133 candidates from other sources.

15.3 per cent of examined candidates from Teachers College.
84.7 per cent of examined candidates from other sources.

72 candidates certificated.
17 from Teachers College.
55 from other sources.
23.6 per cent of candidates certificated came from Teachers College.
76.4 per cent of candidates certificated came from other colleges.

70.8 per cent of examined candidates from Teachers College passed.
41.8 per cent of examined candidates from other sources passed.

Average final rating of 17 candidates from Teachers College — 821.
Average final rating of 55 candidates from other sources — 804.

RESULTS IN EXAMINATIONS IN MODERN FOREIGN LANGUAGE

High School Certificate — 1927

21 candidates examined.
10 candidates from Teachers College.
11 candidates from other sources.

10 candidates certificated.
8 candidates from Teachers College (out of 10).
2 candidates from other colleges (out of 11).

80 per cent of candidates from Teachers College passed.
20 per cent of candidates from other colleges passed.
7 candidates (out of 11) or 64 per cent from outside could not pass an oral examination.
2 candidates (out of 10) or 20 per cent from Teachers College failed in the oral examination.

Intermediate Certificate — 1926

204 candidates examined.
31 candidates from Teachers College.
173 candidates from other sources.
12½ per cent of examined candidates from Teachers College.
87½ per cent of examined candidates from other sources.

147 candidates certificated.
26 from Teachers College.
121 from other sources.
72 per cent of total (147 out of 204) certificated.
84 per cent from Teachers College (26 out of 31) certificated.
70 per cent from other sources (121 out of 173) certificated.

17.7 per cent of successful candidates came from Teachers College.
82.3 per cent of successful candidates came from other sources.

Average final standing of Teachers College candidates — 843.
Average final standing of outside candidates — 856.

Intermediate Certificate — 1927

177 candidates examined.

36 candidates from Teachers College.

141 candidates from other sources.

92 candidates certificated.

85 candidates failed.

28 candidates from Teachers College certificated.

64 candidates from other sources certificated.

52 per cent of total (92 out of 177) certificated.

78 per cent from Teachers College (28 out of 36) certificated.

45 per cent from other sources (64 out of 141) certificated.

30 per cent of successful candidates came from Teachers College.

70 per cent of successful candidates came from other sources.

Average final standing of Teachers College candidates — 783.

Average final standing of outside candidates — 808.

QUESTIONS RELATING TO THE TEACHERS COLLEGE.

1. How many positions were filled with new women teachers?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	13	23	25	69	32
Elementary.....	121	141	78	101	99
Intermediate.....	6	7	19	33	16

2. How many applicants were there for these positions?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	88	107	129	190	103
Elementary.....	171	246	270	396	532
Intermediate.....	31	50	95	136	126

3. How many of such applicants were trained in The Teachers College?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	—	—	—	10	16
Elementary.....	70	137	134	254	378
Intermediate.....	7	17	41	68	51

4. How many such applicants were trained elsewhere?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	88	107	129	180	87
Elementary.....	101	109	136	142	154
Intermediate.....	24	33	54	68	75

5. How many applicants trained in The Teachers College were appointed?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	—	—	—	10	12
Elementary.....	63	127	72	96	86
Intermediate.....	1	3	8	24	10

6. How many applicants trained elsewhere were appointed?

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
High and Latin.....	13	23	25	59	20
Elementary.....	58	14	6	5	13
Intermediate.....	5	4	11	9	6

SECTION VIII

CERTAIN PHASES OF THE PRACTICAL ARTS
PROGRAM †

This report is based on a series of thirteen meetings held between October 15, 1928, and November 15, 1928, in the following schools:

High School of Practical Arts*	Joseph H. Barnes
Hyde Park Intermediate	Gaston
Frank V. Thompson*	Washington Irving
Robert Gould Shaw*	Brighton High*
Hugh O'Brien	Jamaica Plain High*
Charlestown High	Mather*

Abraham Lincoln

supplemented by personal observation of work done in such classes and by interviews with teachers in seventeen schools — (those starred in list above together with the following):

Dorchester High School for Girls	Andrew Jackson
Girls' High	Grover Cleveland
Memorial High (Girls)	East Boston High
Trade School for Girls	Prince
Washington Allston	Donald McKay

Winship

Purpose of Meetings

1. To obtain from parents their opinion in regard to the value of practical arts work.

The rising cost of education in general, and of vocational education in particular, was pointed out, and some of the reasons given, followed by the question: "Do you, as taxpayers, wish to have this kind of education given up?" The answer being invariably in the negative, parents were then ready and often very eager to explain their interest in the matter and to make suggestions.

2. To secure the cooperation of parents in the work of the Survey Committee.

Invitations to the meetings were sent home to the mothers of girls in the practical arts classes in some cases; in others, every parent received a written notice. Announcements were also made at assembly.

† See Part I, pages 32-34, Practical Arts Work for Girls.

Summary of Parents' Remarks

1. Practical arts work is valued by them for the following reasons:

a. It is a practical help in the home. Girls learn to make clothes for themselves and for the younger children, to renovate and mend, to help with the cooking, preserving, and cleaning.

b. Many are trained by these courses to earn their living as dressmakers, caterers, milliners, and as vocational teachers.

c. Almost every girl will have an opportunity to make good use of the instruction in homemaking when they have homes of their own and will be able to run them more efficiently.

d. Some kind of manual training is as necessary for girls as it is for boys if they are to have an all-round development.

2. Suggestions made by parents:

a. The need of extending the practical arts courses, so that they may be included in all secondary schools.

b. Addition of academic studies to curriculum of High School of Practical Arts — particularly of a foreign language.

Comment.— High School of Practical Arts graduates are not admitted to Simmons College, the college which they would naturally enter if they desire to continue their work in college. Parents say that their daughters have therefore found themselves in a "blind alley."

c. Addition of course in Home Economics teaching to the curriculum of The Teachers College.

Comment.— The following extracts are from a letter from the Director of Household Science and Arts, dated November 19, 1928:

"With your second suggestion of 'putting into Teachers College a training course for such teachers,' I am heartily in agreement. I have always felt that such a course was necessary." "If Teachers College offers a course in Kindergarten work, which is also a special subject, why not a course in Household Science and Arts?"

Personal Observations

To express opinions based on observation of only seventeen schools may be unwise, but as these schools are in different sections of the city and include trade, high, intermediate and elementary

schools, they may be considered as offering a suitable cross section. With this necessary statement these conclusions are offered.

1. Vocational needs of boys are given much greater attention than those of girls.

2. Technical and practical aspects of work are unduly emphasized; the proper balance between construction and instruction not being observed; things made rather than problems solved.

3. Home Projects are rarely used. Hence, the study does not appear to be equally important with other subjects of the curriculum.

4. Few changes seem to have been made to meet changed conditions in:

a. Home life.— Girls need training in selection of clothing and foods as much or more than in their preparation and construction. This is a machine age. Ready-made clothes are replacing the home-made article. Food prepared by machinery and cooked in large quantities (*e. g.*, bread) is rapidly improving in quality and therefore in its appeal to the consumer. Women control the spending of a large part of the family income, therefore girls should be trained to buy and save as well as to produce.

b. Vocational life (outside of homemaking).— Women work side by side with men today. Too sharp distinctions need not be drawn between their preparatory courses. Many schools have courses in Household Mechanics open both to boys and to girls. This is a comparatively inexpensive course requiring hand tools instead of machines and can be taught so as to give a good general knowledge of mechanics. Courses in telegraphy, photography, manicuring, hairdressing, child care, home nursing, housing or shelter, and home decoration are found in the curricula of other city schools.

5. Methods and equipment need modernizing.

6. Standards, preparation, ability — as a whole — of practical arts teachers are not equal to the corresponding standards of our academic teachers. In addition, the supply of properly trained teachers appears to be inadequate.

7. Basement rooms and those where girls have to sew entirely by artificial light are far too common.

SECTION IX

INFORMATION RELATING TO INTERMEDIATE
SCHOOL SHOPS *

1. Fundamental Aims

From a widespread investigation of reports on shop work throughout the country the following appear to be the generally accepted fundamental aims of this type of instruction:

- a. To provide opportunity for exploring aptitudes, interests and tastes.
- b. To develop manual skill for general civic needs.
- c. To develop general industrial and vocational intelligence.
- d. To furnish a background of worthwhile experience in order to assist in the direction of the pupil's future education.

2. Types of Shops in the Boston Intermediate Schools

- | | |
|------------------|-------------------------|
| a. Electrical. | g. Drafting. |
| b. Printing. | h. Auto Mechanics. |
| c. Woodworking. | i. Clay Modeling. |
| d. Bookbinding. | j. Interior Decorating. |
| e. Machine Shop. | k. Pattern Making. |
| f. Sheet Metal. | |

3. Distribution of School Shops

Following are two groupings of schools having mechanic arts shops:

1st — Arranged alphabetically by schools (as of May, 1928).

2d — Arranged according to geographical section of the city (as of May, 1928).

4. Distribution of Intermediate Shops Arranged Alphabetically by Schools

a. Intermediate

Abraham Lincoln	. . . 3	Electricity, Printing, Woodwork.
Bennett	. . . 3	Printing, Machine, Woodwork.
Bigelow	. . . 3	Electricity, Printing, Woodwork.
Donald McKay	. . . 4	Electricity, Printing, Machine, Woodwork.
Frank V. Thompson	. . . 4	Electricity, Machine, Sheet Metal, Woodwork.

* See Part I, pages 21-28, Mechanic Arts Courses with Special Reference to Shop Work in the Intermediate Schools.

Grover Cleveland	5	Electricity, Machine, Printing, Sheet Metal, Woodwork.
Henry L. Pierce	3	Printing, Machine, Woodwork.
Joseph H. Barnes	6	Machine, Pattern Making, Printing, Sheet Metal, 2 Woodwork.
Lewis	2	Electricity, Woodwork.
Mary Hemenway	2	Electricity, Sheet Metal.
Michelangelo	5	Auto Mechanics, Sheet Metal, Clay Modeling, Electricity, Woodwork.
Oliver Wendell Holmes	3	Electricity, Printing, Woodwork.
Robert Gould Shaw	3	Auto Mechanics, Machine, Woodwork.
Theodore Roosevelt	3	Electricity, Printing, Woodwork.
Washington	6	Electricity, Machine, Printing, Sheet Metal, 2 Woodwork.
Washington Irving	6	Electricity, Interior Decoration, Printing, 2 Woodwork, Drafting.

b. Elementary with Intermediate Organization

Agassiz	2	Printing, Woodwork.
Christopher Gibson	2	Electricity, Woodwork.
Dearborn	4	Bookbinding, Electricity, Sheet Metal, Woodwork.
Dudley	3	Electricity, Machine, Woodwork.
Edmund P. Tileston	2	Printing, Woodwork.
Elihu Greenwood	2	Electricity, Printing.
Gilbert Stuart	1	Woodwork.
Henry Grew	1	Sheet Metal.
Hugh O'Brien	3	Drafting, Sheet Metal, Woodwork.
Lawrence	2	Machine, Woodwork.
Lowell	2	Sheet Metal, Woodwork.
Mather	3	Electricity, Sheet Metal, Woodwork.
Minot	2	Printing, Woodwork.
Phillips Brooks	3	Electricity, Printing, Woodwork.
Prescott	2	Electricity, Woodwork.
Prince	2	Printing, Woodwork.
Quincy	2	Printing, Woodwork.
Rice	2	Sheet Metal, Woodwork.
Sherwin	3	Sheet Metal, Printing, Woodwork.
Thomas Gardner	2	Electricity, Woodwork.
Thomas N. Hart	3	Drafting, Sheet Metal, Woodwork.
Warren	1	Printing.

c. Elementary

Theodore Lyman	1	Printing.
Wendell Phillips	1	Machine.

5. Distribution of Intermediate Shops Arranged by Sections of the City

	Number of Pupils in District.	Number of Shops.	Kinds of Shops.
East Boston:			
Donald McKay *.....	1,027	4	Electricity, Printing, Machine, Woodwork.
Joseph H. Barnes *.....	1,129	6	Machine, Pattern Making, Printing, Sheet Metal, 2 Woodwork.
Theodore Lyman †.....	1,466	1	Printing.
Charlestown:			
Prescott ‡.....	783	2	Electricity, Woodwork.
Warren ‡.....	1,765	1	Printing.
North and West Ends:			
Michelangelo *.....	953	5	Auto Mechanics, Sheet Metal, Clay Modeling, Electricity, Woodwork.
Washington *.....	1,056	6	Electricity, Machine, Printing, Sheet Metal, 2 Woodwork.
Wendell Phillips †.....	991	1	Machine.
City Proper:			
Abraham Lincoln *.....	1,454	3	Electricity, Printing, Woodwork.
Prince ‡.....	1,124	2	Printing, Woodwork.
Quincy ‡.....	1,044	2	Printing, Woodwork.
South End:			
Rice ‡.....	999	2	Sheet Metal, Woodwork.
South Boston:			
Bigelow *.....	1,156	3	Electricity, Printing, Woodwork.
Lawrence ‡.....	815	2	Machine, Woodwork.
Thomas N. Hart ‡.....	947	3	Drafting, Sheet Metal, Woodwork.
Roxbury:			
Lewis *.....	1,017	2	Electricity, Woodwork.
Theodore Roosevelt *.....	1,500	3	Electricity, Printing, Woodwork.
Dearborn ‡.....	1,797	4	Bookbinding, Electricity, Sheet Metal, Woodwork.
Dudley ‡.....	1,190	3	Electricity, Machine, Woodwork.
Hugh O'Brien ‡.....	1,957	3	Drafting, Sheet Metal, Woodwork.
Sherwin ‡.....	1,030	3	Sheet Metal, Printing, Woodwork.
Brighton:			
Bennett *.....	2,668	3	Printing, Machine, Woodwork.
Thomas Gardner ‡.....	1,643	2	Electricity, Woodwork.
Jamaica Plain:			
Agassiz ‡.....	796	2	Printing, Woodwork.
Lowell ‡.....	1,205	2	Sheet Metal, Woodwork.

* Intermediate. † Elementary. ‡ Elementary with intermediate organization.

	Number of Pupils in District.	Number of Shops.	Kinds of Shops.
Roslindale:			
Washington Irving *.....	1,014	6	Electricity, Interior Decoration, Printing, 2 Woodwork, Drafting.
West Roxbury:			
Robert Gould Shaw *.....	2,066	3	Auto Mechanics, Machine, Woodwork.
Dorchester:			
Frank V. Thompson *.....	1,361	4	Electricity, Machine, Sheet Metal, Woodwork.
Grover Cleveland *.....	738	5	Electricity, Machine, Printing, Sheet Metal, Woodwork.
Henry L. Pierce *.....	1,263	3	Printing, Machine, Woodwork.
Mary Hemenway *.....	1,891	2	Electricity, Sheet Metal.
Oliver W. Holmes *.....	1,048	3	Electricity, Printing, Woodwork.
Christopher Gibson †.....	1,249	2	Electricity, Woodwork.
Edmund P. Tileston †.....	1,584	2	Printing, Woodwork.
Gilbert Stuart †.....	839	1	Woodwork.
Mather †.....	2,417	3	Electricity, Sheet Metal, Woodwork.
Minot †.....	794	2	Printing, Woodwork.
Phillips Brooks †.....	1,750	3	Electricity, Printing, Woodwork.
Hyde Park:			
Elihu Greenwood *.....	1,669	2	Electricity, Printing.
Henry Grew †.....	1,278	1	Sheet Metal.

* Intermediate.

† Elementary with intermediate organization.

6. Schools in which Grade VI Mechanic Arts Classes are Conducted

a. Number of Classes

District.	Electricity.	Machine.	Printing.	Sheet Metal.	Woodwork.
Abraham Lincoln.....	1	—	1	—	—
Agassiz.....	—	—	1	—	1
Dearborn.....	1	—	—	—	—
Dudley.....	1	1	—	—	—
Elihu Greenwood.....	1	—	1	—	—
Henry Grew.....	—	—	—	1	—
Lowell.....	—	—	—	1	—
Mather.....	—	—	—	—	2
Minot.....	—	—	1	—	1
Prescott.....	1	—	—	—	1
Sherwin.....	—	—	2	—	—
Theodore Lyman.....	—	—	2	—	—
Thomas N. Hart.....	—	—	—	1	1
Wendell Phillips.....	3	—	—	—	—

b. Number of Shops of Different Types

Type of Shop.	Inter- mediate.	Elementary with Inter- mediate Or- ganization.	Elementary.
Auto Mechanics.....	2	—	—
Bookbinding.....	—	1	—
Clay Modeling.....	1	—	—
Drafting.....	1	2	—
Electricity.....	12	8	—
Interior Decorating.....	1	—	—
Machine.....	8	2	1
Pattern Making.....	1	—	—
Printing.....	11	9	1
Sheet Metal.....	6	8	—
Woodworking.....	18	19	—
Totals.....	61	49	2

Grand Total — 112.

7. Destination of Mechanic Arts Pupils of Grades VII, VIII, IX

Pupils from Grade VIII, elementary schools, from all parts of the city will be admitted to the ninth grade cooperative courses in the Brighton, East Boston, Hyde Park, South Boston High Schools, the Dorchester High School for Boys, the Memorial High School (Boys), and the cooperative agricultural course in the Jamaica Plain High School.

A limited number only from the schools in Charlestown may be admitted to the ninth grade cooperative course in the Charlestown High School. Other pupils electing a ninth grade electrical course may transfer to an intermediate school offering a ninth grade electrical course.

Pupils in intermediate districts will be required to pursue ninth grade work in their home districts, provided that such pupils wishing to attend the Mechanic Arts High School, a trade school, or a cooperative agricultural or industrial course may and should make their election at the completion of the eighth grade unless they are assigned in their home districts, in accordance with the following schedules, to ninth grade courses accepted as preparatory to the tenth grade courses.

Admissions to a tenth grade mechanic arts or full-time industrial course from a ninth grade course will be in accordance with the following:

To	From
Jamaica Plain High School	Any ninth grade course.
Mechanic Arts High School	Any ninth grade mechanic arts course.
Boston Trade School	Any ninth grade mechanic arts course in which the pupil has had one full year of shop work in the shop sub- ject of his choice.

Admissions to the tenth grade of a cooperative industrial course may be made when the pupil has successfully completed one full year in one of the ninth grade mechanic arts courses listed opposite the high school to which that pupil seeks admission:

Brighton High School	Auto Mechanics, Machine Shop Prac- tice, or Electricity.
Charlestown High School	Electricity.
Dorchester High School for Boys	Woodworking.
East Boston High School }	Machine Shop Practice or Wood- working.
Hyde Park High School }	
Memorial High School (Boys)	Printing.
South Boston High School	Sheet Metal.

8. Destination of Ninth Grade Mechanic Arts Boys

Number of boys in ninth grade mechanic arts courses in 1926-27 431

Number of boys entering the tenth grade of Trade School, cooperative
high school, or Mechanic Arts High School, from ninth grade me-
chanic arts courses, September, 1927 302

Distributed as follows:

Dorchester High School	Woodworking	17
Charlestown High School	Electricity	19
Hyde Park High School	Machine Shop Practice	19
East Boston High School	Machine Shop Practice	43
Brighton High School	Auto Mechanics	15
Mechanic Arts High School		158
Boston Trade School		31
Total		302

The remaining pupils for the most part entered different high schools and took up such courses as are offered in the general high school.

SECTION X

MAP STUDIES OF THE BOSTON SCHOOL SYSTEM

Four map studies give a picture of the school system with special reference to the location of schools and districts.

Map No. 1.— The location of main buildings of the public high schools and of the public elementary school districts throughout the city.

Map No. 2.— The location of main buildings of public schools and of parochial schools throughout the city.

Map No. 3.— The present (1928) elementary school districts.

Map No. 4.— The present (1928) intermediate school districts.

Four maps give the present and possible future development of the 6-3-3 plan. Circles about the main school buildings as centers show the districts in their relationship one to the other; half-mile radius for elementary districts, and three-quarter-mile radius for intermediate districts. The circles show relative position only and are not intended to define district lines.

Map No. 5.— All districts having Grades I-VI at present (1928). This includes districts with Grades I-VI, I-VIII and I-IX.

Map No. 6.— Districts having Grades I-VI when the 6-3-3 plan is completed.

Map No. 7.— All districts having Grades VII-IX at present (1928). This includes districts with Grades VII-IX and I-IX.

Map No. 8.— Districts having Grades VII-IX when the 6-3-3 plan is completed.

A map showing the trend of population by districts over the last three years was presented in Part I, following page 75.

The Survey Committee of the Boston Public Schools wishes to acknowledge the help and cooperation of the City Planning Board in supplying copies of its own map of Boston without street names as a basis for the map studies here presented.

CONDENSED SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF THE SURVEY COMMITTEE AS CONTAINED IN PART I

MECHANIC ARTS COURSES WITH SPECIAL REFERENCE TO SHOP WORK IN THE INTERMEDIATE SCHOOLS

(See pp. 21-28)

1. There is needed a more effective plan for the selection of pupils who are to take mechanic arts courses.
 - a. Organized guidance.
 - b. Development of tests to assist guidance.
 - c. General intelligence tests to be used only with other data.
 - d. Study of causes of academic failure.
 - e. Interests of adolescents not dependable.
 - f. Wisdom of choice carefully checked.
 - g. Parent the final arbiter with school advising.
2. The academic training in industrial courses should be substantial.
 - a. It should not be narrowly limited to a particular trade or industry.
 - b. It should be directed by properly trained academic teachers.
3. The shop courses in Grade IX of the intermediate schools should not be vocational.
 - a. Intensive vocational training is not in harmony with the purpose of the intermediate school.
 - b. Special schools are equipped for vocational training.
4. Adequate provision should be made in the trade schools for pupils not adapted to the curriculum as given in intermediate or high schools.
 - a. Boston Trade School should provide short unit courses for pupils who leave school for economic reasons or who cannot profit by the regular school courses.

5. There appears to be little relation between the number of shops and the number of pupils in the school.

a. Variations from 148 pupils per shop in one school to 362 pupils per shop in another.

6. The present organization of an intermediate school is on the basis of thirty-five pupils to each academic teacher (shop teachers not included).

a. Variations in the number of school shops may result in wide variation of teaching load for academic teachers.

b. The number of shop and practical arts teachers combined should be not more than one-fifth ($\frac{1}{5}$) the number of academic teachers assigned to any school or district.

c. The amount of space devoted to mechanic arts and practical arts should be not more than one-fifth ($\frac{1}{5}$) the amount of space devoted to academic instruction.

7. All teachers of a school, whether shop or academic, should be directly and equally responsible to the principal of the school, both as to instruction and to the requisitioning of supplies and equipment.

8. The rapid development of numerous intermediate shops with costly equipment is unsound educationally and financially.

a. It is claimed that shop instruction aids in discovering a pupil's real aptitudes and assists in keeping pupils in school. However a simpler equipment will aid in discovering aptitudes, and specific vocational training is not the purpose of the intermediate school.

b. The pupil should be kept in school only as long as he receives more real profit than by leaving.

c. There is danger of tempting the pupil away from the broader academic training toward instruction which deals with mechanical subjects.

d. The present system of shops is experimental and very expensive.

9. The standard shop equipment of intermediate schools should be limited to woodworking, printing, sheet metal, and electricity, organized as a general shop.

a. These four types of shop work:

1. Are desirable educationally.

2. Allow academic correlation.

3. Combine readily as the core of the general shop

b. The general shop is in keeping with the already widely accepted principle illustrated by general mathematics and general science. The advantages of the general shop include:

1. Broader educational possibilities.
2. Possibility of a home mechanics course.
3. Avoidance of over-emphasis of trade training and too early vocational choice.
4. Greater economy without educational loss.
5. Larger recitation classes.
6. Elimination of educational loss due to transfers.

c. The Survey Committee recommends:

1. That the general shop be the standard equipment for intermediate schools, including woodworking, printing, sheet metal, and electricity organized to include a course in home mechanics.
2. That strict economy and utility be the basis for the selection of equipment.
3. That some of this equipment be made in the trade and industrial courses.
4. That no dangerous machinery be used in intermediate shops.

COOPERATIVE INDUSTRIAL CLASSES IN DAY HIGH SCHOOLS

(See pp. 29-31)

1. The policy of housing the school shops within the school building proper is decidedly questionable. In the opinion of the Committee, they should be placed in a separate building or annex where the shop type of construction usual in industry can be used with great economy and without educational loss.

2. Industrial coordinators and teachers should be directly under the control of the Head Master. Supplies and equipment should likewise be the Head Master's responsibility.

3. The equipment of machine shops is unreasonably expensive and unduly elaborate.

4. The academic subjects in the cooperative courses should be of broad educational content.

5. Further expansion in this work should come only after there is a definitely established need and satisfactory evidence that present facilities are inadequate.

6. Manufacturers, employers, and organized labor should be represented on the several advisory committees.

PRACTICAL ARTS WORK FOR GIRLS

(See pages 32-34)

1. The practical arts courses to date have proved of small value in helping toward earning a living, but are of real value to the future homemaker.

2. The household arts courses are more restricted in equipment, scope, and variety than those offered to boys in mechanic arts. The girl's work should be expanded. This training in household arts should be subordinated to training for the larger aspects of life.

3. The broader aspects of instruction should form a proper balance with the productive phases. "Clothing" and "food" mean more than "sewing" and "cookery." The larger aspects need the greater emphasis.

4. Definite home lesson assignments should make the practical arts courses of substantial quality comparable with major academic subjects.

5. There is need of a greater supply of well-trained practical arts teachers, with substantially higher qualifications than at present.

6. Courses in the High School of Practical Arts should fit properly qualified girls for higher institutions of learning which specialize in this type of training.

7. Due to the small size of class units, the instruction cost is approximately double that of academic subjects.

8. Light, ventilation, and equipment should be adequate, and unnecessary or obsolete equipment eliminated.

9. Broader vocational opportunities should be provided in the Trade School for Girls.

10. The extension of adult courses in household and practical arts is recommended in order that increased emphasis may be placed on the homemaking and community aspects of the work.

11. Cooperative courses in practical arts should receive careful consideration.

12. Girls of the intermediate schools should have opportunity to take the proposed courses in household mechanics.

13. The principal of the school should have the same control over instruction, supplies and equipment in practical arts as for any academic department of his school.

THE CURRICULUM WITH SPECIAL REFERENCES TO SO-CALLED "FADS AND FANCIES"

(See pages 35-47)

1. The curriculum is a necessary though often a tardy expression of the needs of society. Constant revision must be made to meet the demands of rapidly changing industrial and social needs.

2. The expansion of special departments has had a growth far exceeding the rate of growth of public school pupil membership. The real problem of the school authorities is to guard against unwarranted expansion of the curriculum.

3. There is little evidence that the public desires to express itself in specific terms on the curriculum.

4. New subjects should be added only as the result of careful and deliberate study showing educational value and specific need; a school activity should be eliminated only when well-determined evidence shows that it is no longer of sufficient merit to justify its cost.

5. There is no unanimity of agreement as to what constitutes a "fad" or "fancy."

6. The specific guidance offered in a definite course of study in character training strengthens the objectives of character training and right moral attitudes which are the fundamental aim of all the work of the schools. The moral obligation to do thorough work in school constitutes a moral training of inestimable value.

7. The academic training offered in the new industrial courses should reflect fully the complete cultural values of the subjects taught.

8. The point system of diploma credits for high school graduation has a tendency to set a standard of quantity rather than

quality of work. It puts a premium on mediocrity, and the accumulation of points in minor subjects.

9. The Survey Committee recommends:

a. That to obtain a diploma from a secondary school, three-fifths of the required 100 credits be earned in Grades X, XI, and XII, at least fifteen points of which must be twelfth-grade work.

b. That possible graduation at the conclusion of Grade XI be discontinued with the exception of special cases recommended for accelerant work in the Summer Review High School.

c. That within the various curricula, such as college preparatory, technology preparatory, accounting, secretarial, salesmanship, and general, the number of electives be reduced.

d. That for pupils who secure grades of A or B in two-thirds or more of the major subjects pursued in Grades X, XI, and XII, or four-fifths of the subjects pursued during the graduating year, a special diploma "**With Honors**" be given by the School Committee.

e. That head masters of high and Latin schools and masters of intermediate schools carefully study the problem of improving the desire and respect for scholarship in their schools, with a view to recommending to the Board of Superintendents further definite revision of the present procedure.

PROVISION FOR ACCELERATION OF PUPILS

(See pages 48-51)

A questionnaire sent to sixty cities of the United States brought the following information:

1. Superintendents have given little attention to systematic plans for accelerating the bright child.

2. Acceleration is largely left to the principals, and is so small in amount in many cities that no special classes are provided. It is attained more often by skipping a grade.

3. Systematic plans being tried are:

a. Two years' work in one.

b. Three years' work in two.

c. Opportunity classes.

d. Four-term schools.

e. Summer schools.

4. The results of standard intelligence and achievement tests are being used together with other data in the selection of accelerant pupils.

5. The advantages of acceleration far outweigh the disadvantages; the teacher needs to be superior, interested, sympathetic and adaptable.

Findings and Recommendations

1. Eight to ten per cent of pupils are of superior ability, and Boston should make proper provision for this type of pupil.

2. An organized group of accelerants should number 25 to 30, and presupposes 250 to 300 pupils in a given grade. The selection should consider:

a. Teacher's judgment, scholastic records and standard tests.

b. Physical condition.

c. Personal traits.

d. Parental approval.

3. Grades III, IV, and V in two years under the same teacher offer a preferred method of acceleration.

4. Grades VII, VIII, and IX offer another opportunity for three grades in two years, preferably with the same subject teachers.

5. Grades VI, X, XI, XII should form periods of curriculum enrichment instead of acceleration.

6. Acceleration requires constant and effective supervision of learning and teaching.

THE TEACHERS COLLEGE OF THE CITY OF BOSTON AND ELIGIBLE LISTS FOR THE APPOINTMENT OF TEACHERS

(See pages 52-55)

1. A high standard in The Teachers College is essential. The children of Boston are entitled to the best teachers, wherever found. Competition on even terms with properly qualified candidates prepared elsewhere should be expected for all positions.

2. Admissions to The Teachers College should be limited to the number of teaching positions which will probably be filled by graduates of The Teachers College.

3. Four-year courses should replace the present three-year courses.

4. Properly qualified students who have completed four years of college work should have the opportunity of entering the fifth year of the course leading to the degree of Ed. M.

5. Competitive lists for qualification and merit lists for promotion are essential safeguards of Boston school standards and of great value in providing the best teachers and leaders for the education and training of our school children.

SCHOOL DISTRICT CONSOLIDATION

(See pages 56-57)

1. The reasons for the present excess of sub-masters and masters' assistants are as follows:

- a. Transfers which have not been made because they would have resulted in less efficient service.
- b. Adjustment at the time of abolishing previous ranks.
- c. Teachers-in-charge when combining districts.
- d. Local district conditions.

2. Excess positions should be reduced by filling vacancies by transfer instead of new appointment.

3. No new appointments should be made to the ranks of sub-master-in-charge and master's assistant-in-charge.

4. When new intermediate districts are established attention should be given to the possibility of combining six-grade districts without impairment of administrative efficiency. Such combination should result in substantial economies.

5. The Survey Committee recommends that the boundary lines of school districts be restudied with a view to consolidating districts which are too small and dividing districts which are too large.

SCHOOL BUILDINGS WHICH WILL BECOME OBSOLETE WITHIN THE NEXT TEN YEARS

(See pages 58-64)

1. There are many school buildings in Boston old in point of years, but well-constructed buildings, carefully supervised, should last almost indefinitely.

2. Because of the expense involved, replacement should be made only after a careful survey, including studies of shifting population, and the growth of private schools, as well as the general housing problem of the whole school system.

A SYSTEM OF NUMBERING BOSTON SCHOOL BUILDINGS

(See pages 65-73)

The cataloguing of Boston's schools by number provides:

1. Easy identification of appropriation items, now labelled simply by the elementary district.
2. A permanent building record that is not broken by a change in status or a change in name.
3. A number system that gives some clue to the location of the building and its relation to other buildings.

A STUDY OF THE GROWTH AND SHIFTING OF POPULATION AS RELATED TO A BUILDING PROGRAM

(See pages 74-84)

1. Detailed studies of school population by sections of the city, map studies to show areas of rapid growth or decline, tabular studies over a period of years of fluctuating population of schools and districts are of vital importance in the formulation of a scientific building program.

2. The Survey Committee presents a suggested building program as the result of studies of the growth and shifting of school population by sections of the city and by school districts. The projects are classified: High, intermediate, and elementary; those immediately needed, and those depending on developments of the next few years.

PROBLEMS RELATING TO THE CONSTRUCTION OF SCHOOL BUILDINGS

(See pages 85-93)

A building program should be based on studies of:

- Present school plant.
- Growth of school enrolment.
- Home locations of pupils.
- Trends of population.
- Selection of sites.
- Ten-year program.

The report covers:

- a. Fundamental policies in planning intermediate and high schools;
- b. Planning of elementary school buildings;

c. Preparation and study of floor plans.

This is intended to serve as a basis for working out a "code of standards" that shall combine more economical planning and greater efficiency in school administration.

REORGANIZATION OF SCHOOLHOUSE COMMISSION

(See pages 94-107)

The Survey Committee recommended the abolition of the present Schoolhouse Commission and the substitution of an unpaid board of three commissioners of school buildings, which is to appoint a Superintendent of Construction to take over the duties of the present Schoolhouse Commission.

The bill authorizing this change was passed by the Massachusetts Legislature of 1929 and accepted by the voters of Boston at the city election of November 5, 1929.

CUSTODIANS OF SCHOOL BUILDINGS

(See pages 108-109)

1. The present system of paying a gross sum to custodians and allowing them to hire all of their assistants has many unbusiness-like features.

2. The compensation of custodians is a very complicated matter. It is difficult without a long careful investigation to arrive at a solution which is fair to all parties concerned.

3. The Schoolhouse Custodian should be directly under the control of the Superintendent of Schools.

4. An increase in the supervisory force in this department is essential.

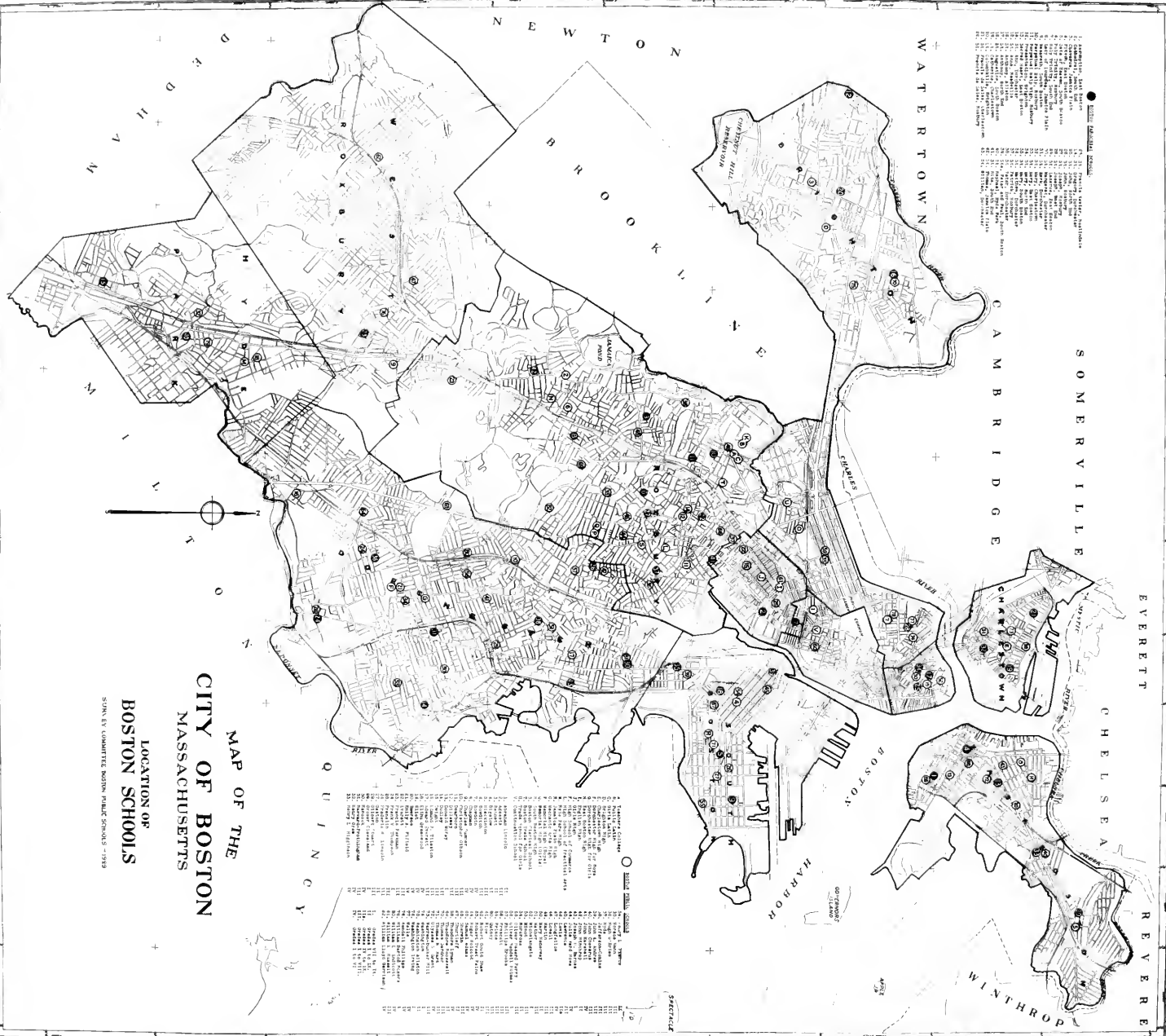
5. The present system of promotion for eustodians should be revised by the Board of Superintendents after consultation with the Schoolhouse Custodian.

6. A monthly report should be made by each custodian showing in detail the total amount of compensation received and also a detailed account of all expenditures made.

7. After this system has been in effect for a period of two years the whole problem should again be restudied by a special committee appointed by the School Committee.

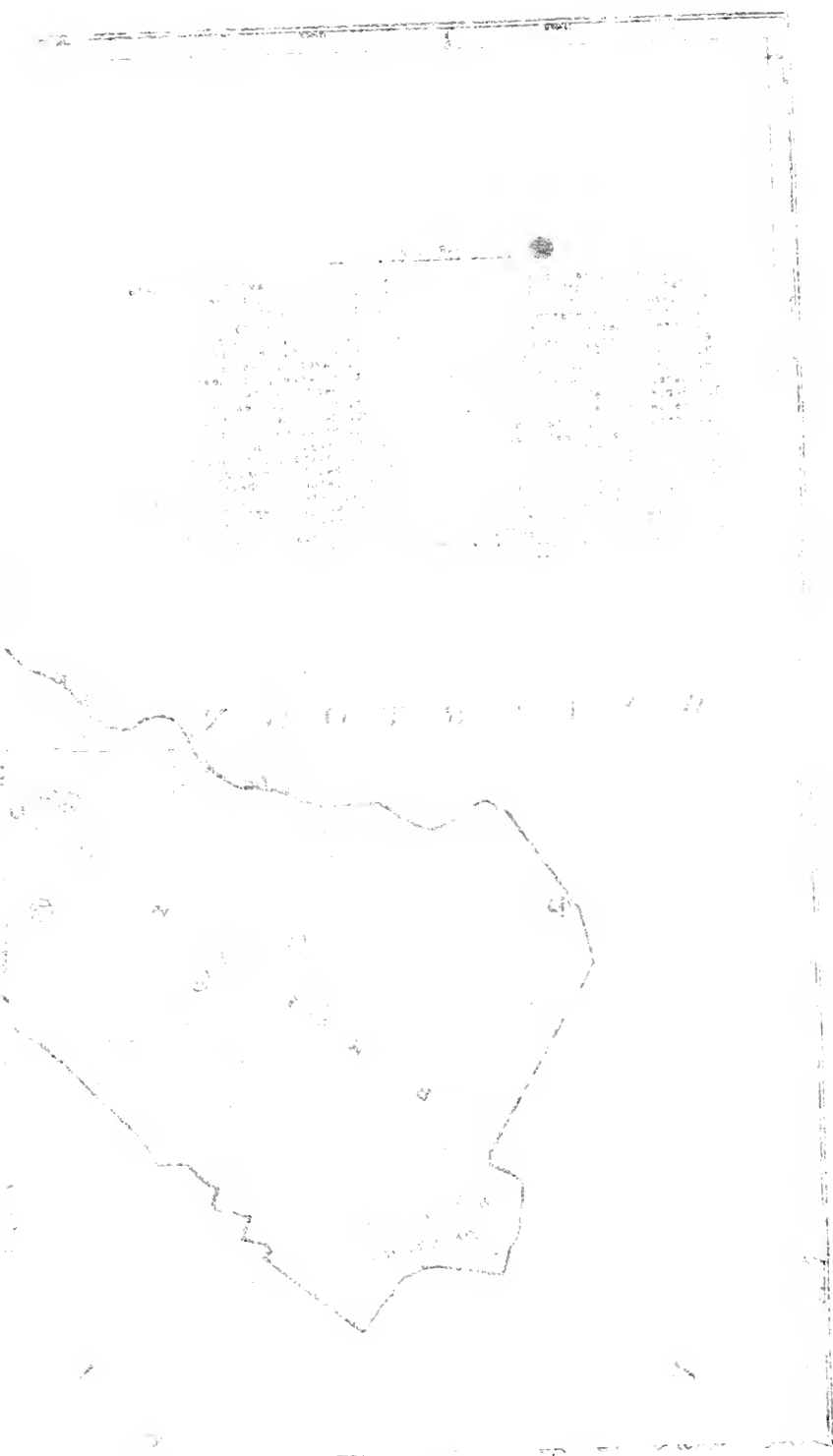


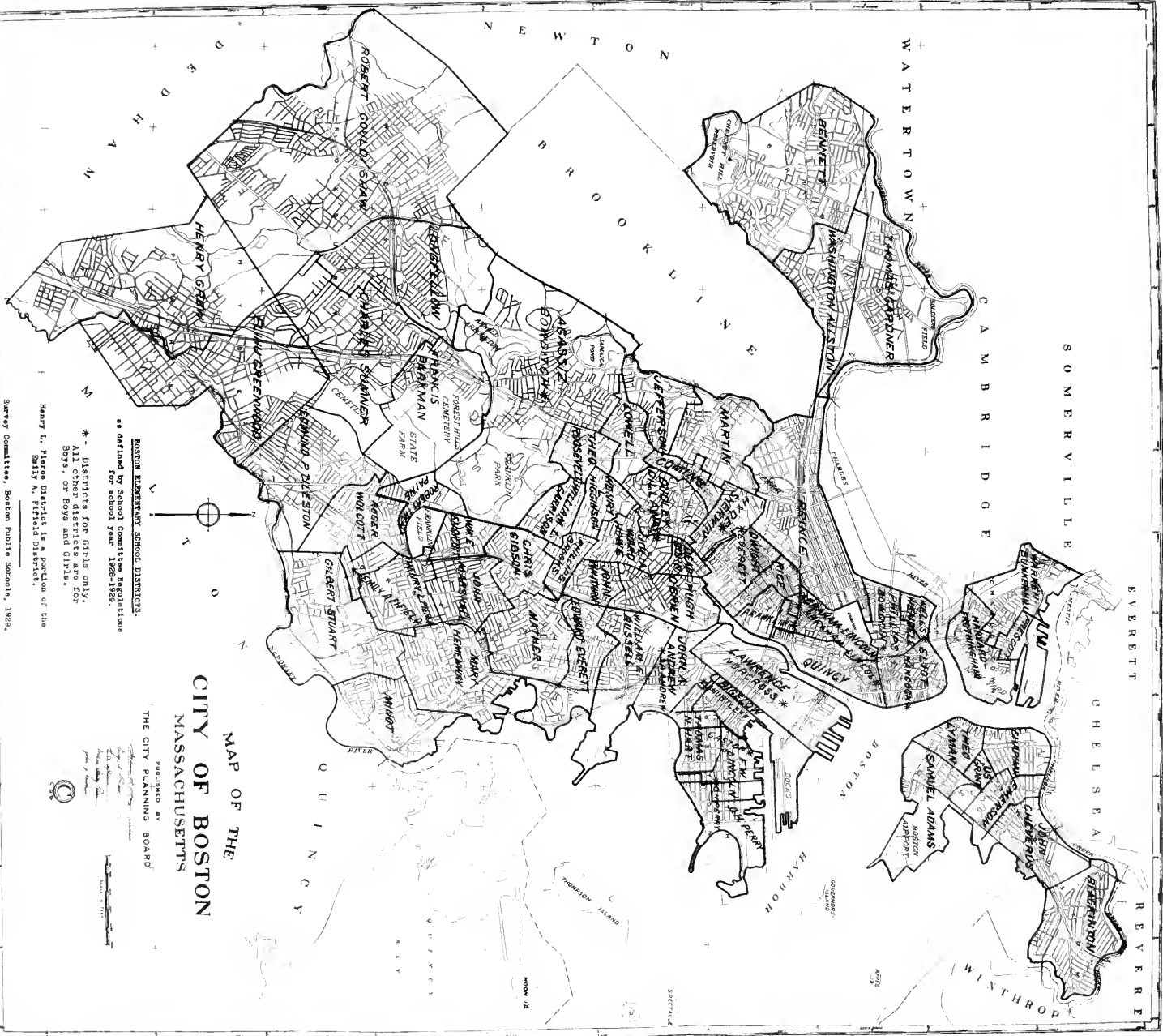
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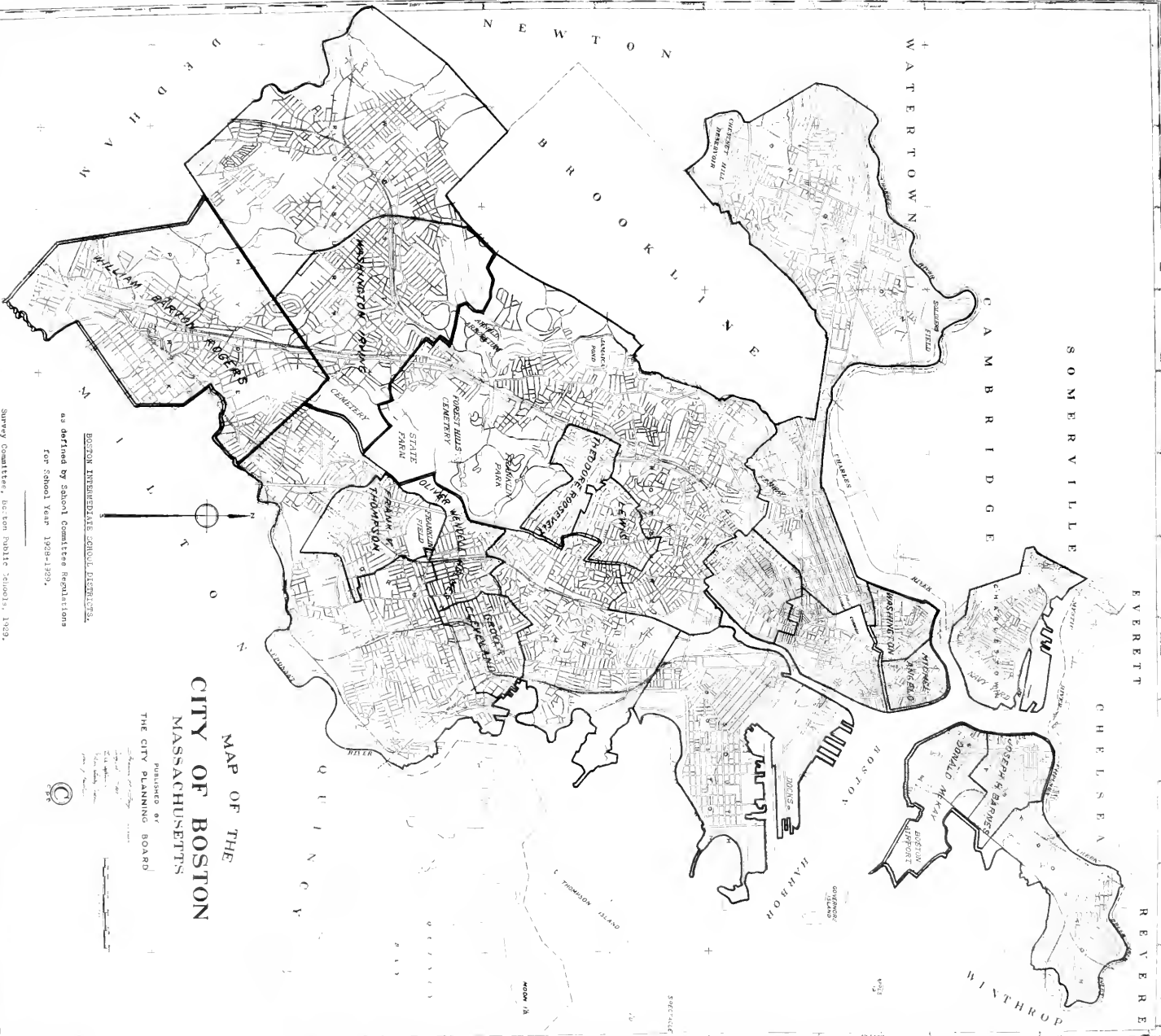
MAP OF THE
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 LOCATION OF
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 GIVEN BY COMMITTEE BOSTON PUBLIC SCHOOLS - 1919

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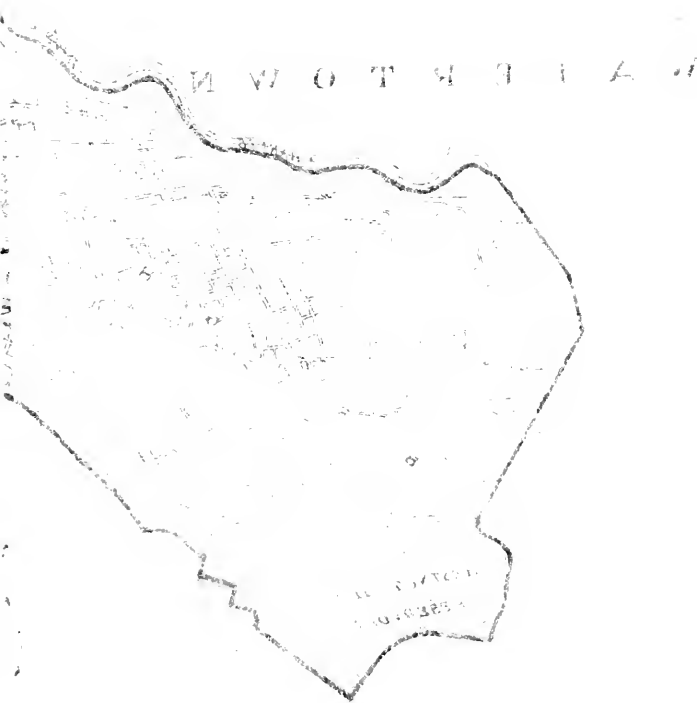
MAP OF THE
CITY OF BOSTON
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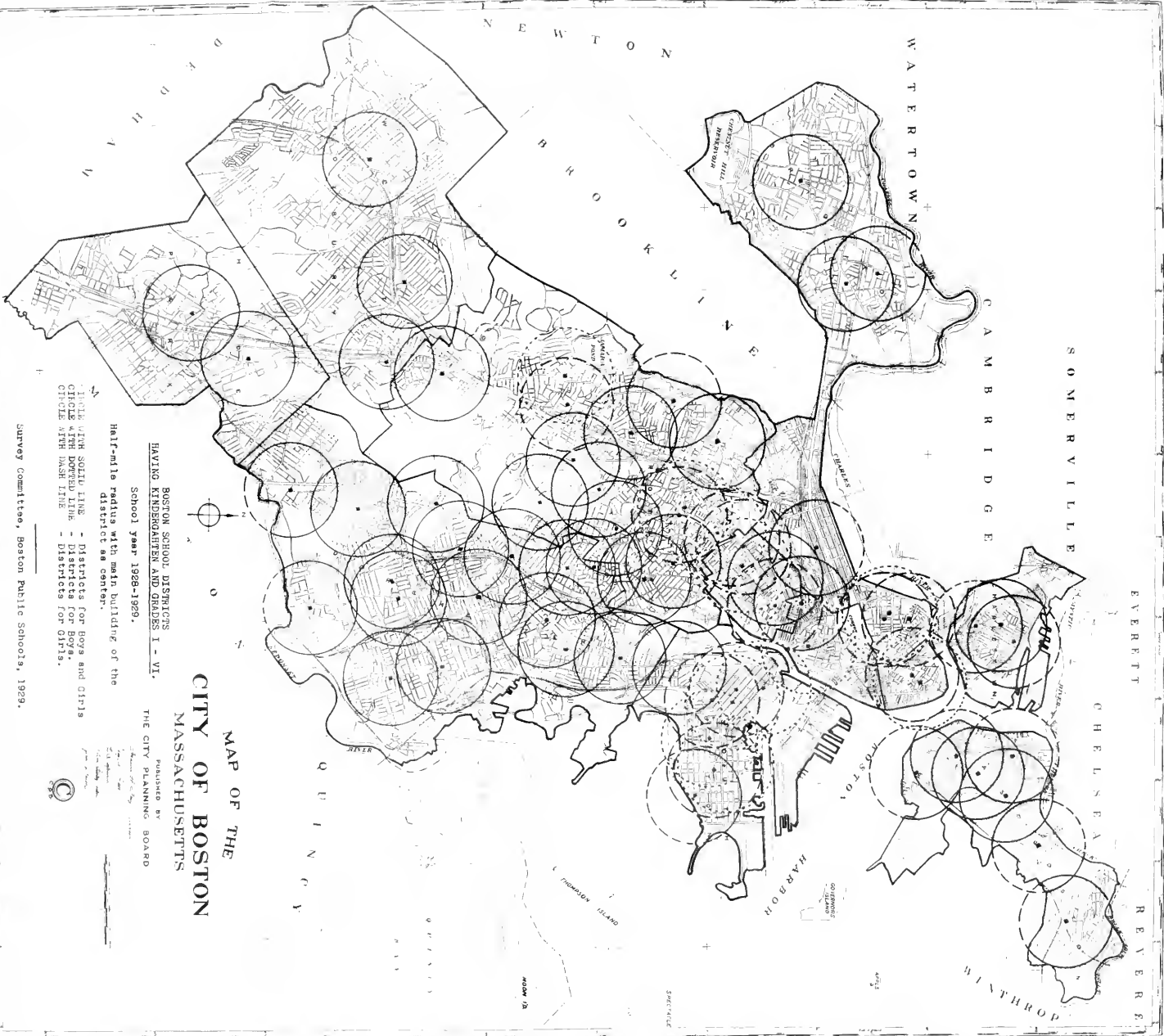
PUBLISHED BY
THE CITY PLANNING BOARD

BOSTON INTERMEDIATE SCHOOL DISTRICTS

as defined by School Committee Regulations
for School Year 1928-1929.

Survey Committee, Boston Public Schools, 1929.





MAP OF THE CITY OF BOSTON MASSACHUSETTS

BOSTON SCHOOL DISTRICTS
HAVING KINDERGARTEN AND GRADES I - VI.
School year 1928-1929.

Half-mile radius with main building of the district as center.

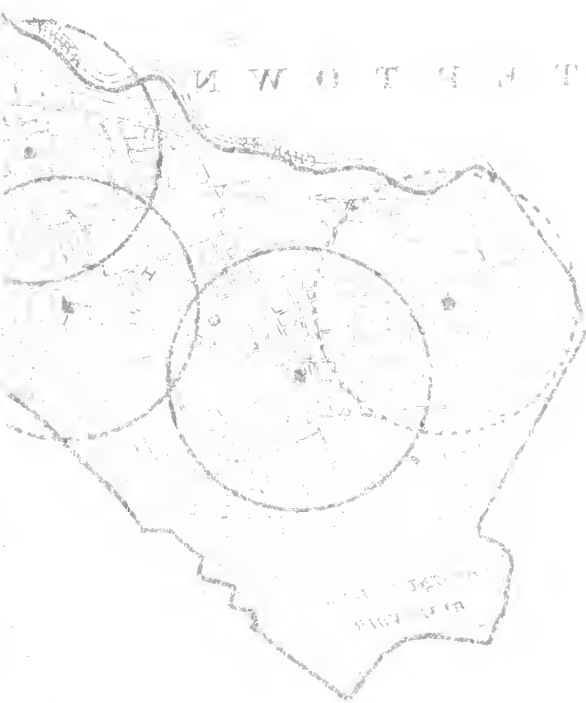
Circles with solid line - Districts for boys and girls
Circles with dashed line - Districts for girls.

Survey Committee, Boston Public Schools, 1929.

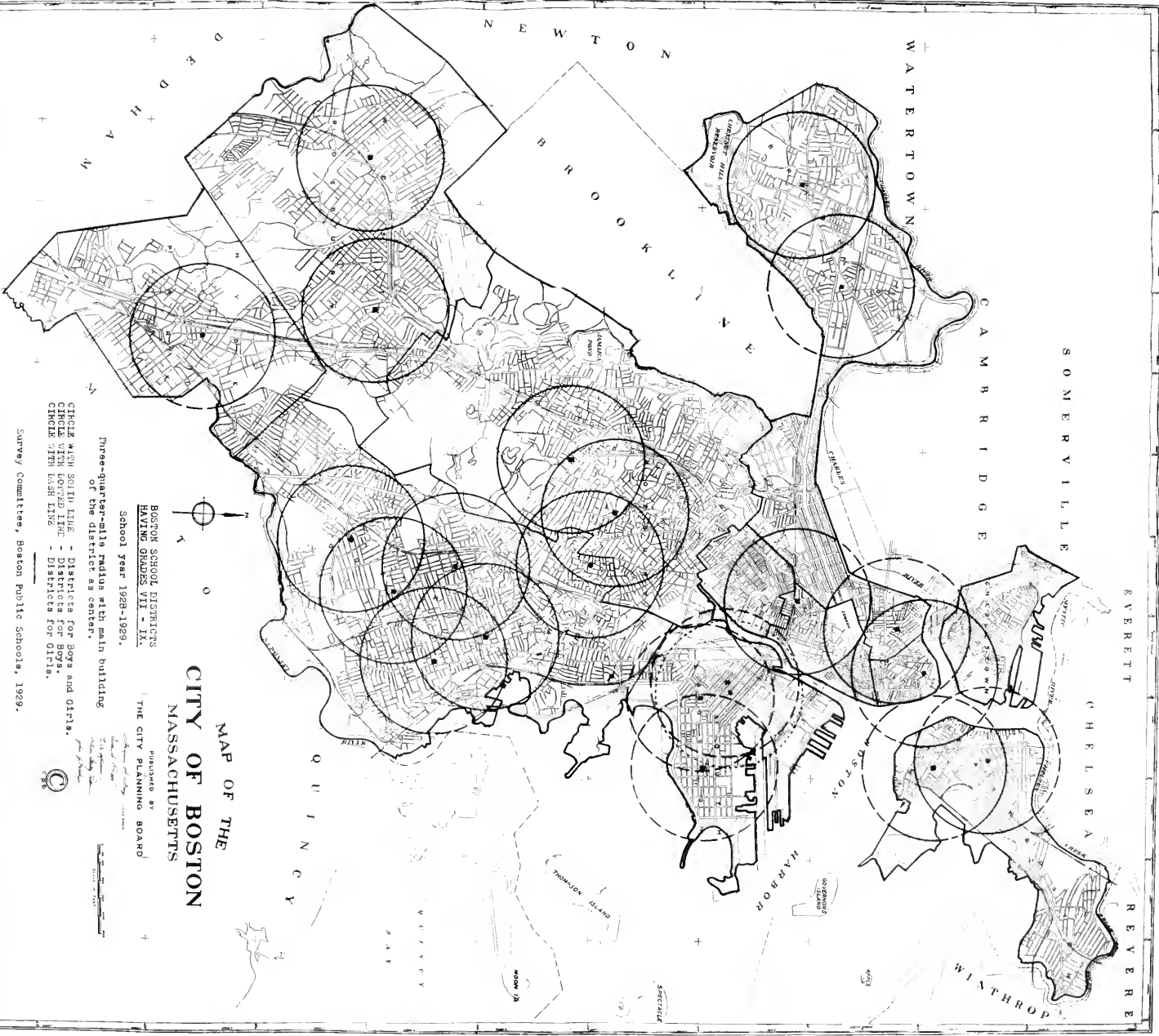
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W O T T A



MAP OF THE CITY OF BOSTON MASSACHUSETTS

BOSTON SCHOOL DISTRICTS
MAINTAINED BY THE
CITY PLANNING BOARD

School year 1928-1929.

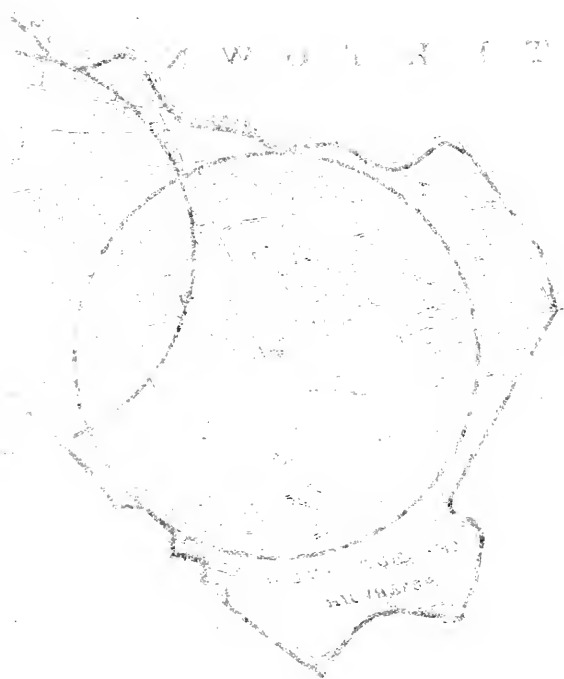
Three-quarter-mile radius with each building
of the district as center.

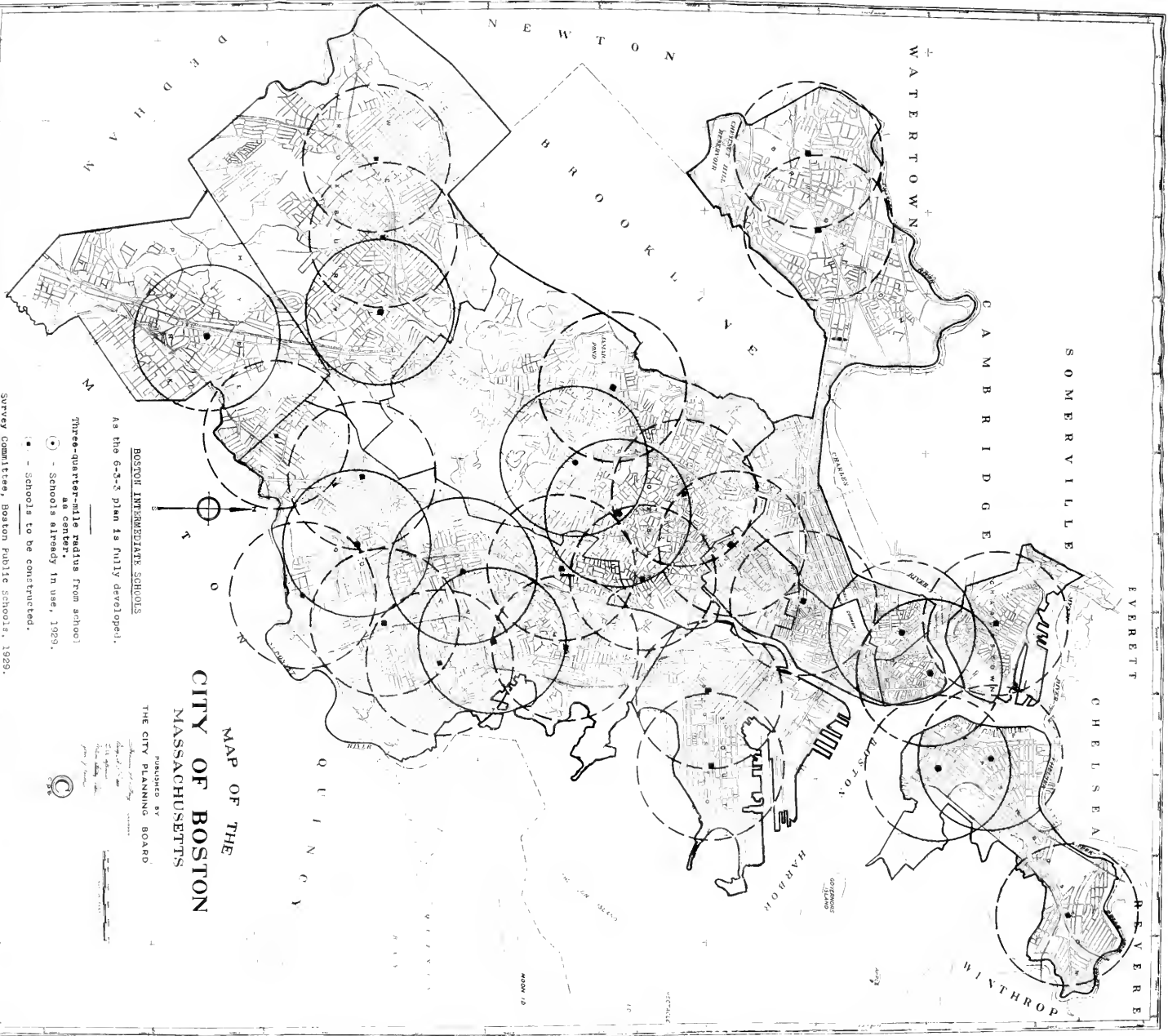
CIRCLE WITH SOLID LINE - Districts for Boys and Girls.
CIRCLE WITH DOTTED LINE - Districts for Boys.
CIRCLE WITH DASH LINE - Districts for Girls.

Survey Committee, Boston Public Schools, 1929.



W O R L D A T





MAP OF THE CITY OF BOSTON MASSACHUSETTS

PUBLISHED BY
THE CITY PLANNING BOARD

BOSTON INTERMEDIATE SCHOOLS
As the 6-8-3 plan is fully developed.

Three-quarter-mile radius from school
as center.

- - Schools already in use, 1929.
- - Schools to be constructed.

Survey Committee, Boston Public Schools, 1929.

2007



SPECIAL CLASSES FOR RETARDED PUPILS

(See pages 110-111)

The marked increase in expense of special classes comes from the meeting of a real need and the necessary compliance with the existing law.

The Survey Committee believes that a higher standard of educational preparation should be required of teachers who desire to qualify for special class work.

RESULTS OF A SELF-SURVEY BY DIRECTORS AND PRINCIPALS

(See pages 112-113)

A communication from the Survey Committee relating to possible economies in schools and special departments was sent to every director and principal. The replies include these suggestions:

- Improved procedures in shop work.
- Increased efficiency in building and repairing schools.
- Redistricting.
- Efficient organization of schools.
- Sending custodians' pay rolls through principals' hands.

There was almost unanimous opinion on the part of principals that the educational side of the schools is being maintained with proper regard for economy. Several directors believed that increased budgets were essential for needed expansion.

CAUSES OF INCREASED SCHOOL EXPENDITURES

(See pages 114-122)

1. Diminished purchasing power of the dollar.
2. Increased school attendance, particularly in intermediate and high schools.
3. Increased number of teachers.
4. Growth of special departments.
5. Increased compensation of teachers.
6. Construction of new school buildings.
7. Expansion of industrial education and other types of specialized instruction.
8. Increased cost of alterations and repairs.
9. Increased cost of maintenance.

BONDING VS. PAY=AS=YOU=GO POLICY

(See page 123)

The Survey Committee believes that building schoolhouses in Boston is properly considered a recurrent expense.

Such recurrent expense should be met out of current revenue, not by borrowing. Schoolhouses and sites should be paid for out of taxes and not by issuing bonds.

HEALTH EDUCATION

(See page 124)

The Department of School Hygiene seems to be well equipped for health inspection and the conservation of health.

The Survey Committee recommends:

- a. That a training course for teachers of Health Education be established at The Teachers College.
- b. That a qualified teacher, rather than a medical expert, be in charge of the course.
- c. That extension courses in Health Education be provided for teachers in service.
- d. That the material of instruction now used in the teaching of physiology and hygiene be reorganized so that the emphasis will be placed on Health Education.

PLACEMENT OF PUPILS IN PART-TIME AND PERMANENT POSITIONS

(See page 125)

The Survey Committee believes that there should be centralized responsibility or systematic coordination of all placement work. The Committee has not sufficient information to enable it to decide how it should be done.

In its opinion, the responsibility for such advice to the School Committee should be taken by the Superintendent of Schools.

MAINTENANCE BUDGET

(See page 126)

The Maintenance Budget is based on information from principals and directors relating to: Personnel, supplies and incidentals, repairs and alterations.

The Survey Committee recommends that no report be forwarded to the Board of Apportionment until it has first been approved by the master of a school or director of a department and the assistant superintendent in charge of the school or department.

SUPERVISORS OF ATTENDANCE

(See page 127)

The Survey Committee feels that the question of appointing women and Yiddish or other language-speaking supervisors of attendance does not come within the scope of this survey.

It does feel, however, that the matter should be given careful consideration by the School Committee.

LEGISLATION RELATING TO SCHOOL APPROPRIATIONS

(See pages 128-129)

Funds for the maintenance of the Boston school system are now provided by eight separate legislative acts with appropriating power; some of these were needed to support an activity through its experimental stage.

The Survey Committee recommends that the School Committee seek legislation to provide that appropriations be classified under four items:

1. General school purposes,
2. Repairs and alterations,
3. New construction,
4. Pensions,

securing the following advantages:

1. Balanced distribution of school funds.
2. Definite control by the School Committee.
3. Safeguard against unwarranted expansion.
4. Elimination of special legislative appeals for a single activity.
5. Flexibility of control.

SALARIES IN THE BOSTON PUBLIC SCHOOLS

(See page 130)

The essential purpose of salary increases is the attraction of superior people to the teaching profession with a high standard of qualification.

The fundamental requirement of an adequate system of public education is the securing of the best available teachers; no better use can be made of school funds. To be effective, a satisfactory salary schedule depends upon a policy of unrestricted open competition.

The Survey Committee believes that such salaries should be paid as will attract and hold teachers comparable with the best in the country.

PROCEDURE RELATING TO ANNUAL APPROPRIATION ORDER

(See page 131)

1. In line with increasing the responsibility of the Superintendent to the School Committee and the other officers to him, the Survey Committee recommends that materials for estimates should be furnished to the Superintendent and he should submit the budget to the School Committee. This shall not interfere with the power and responsibility of the Business Manager to report directly to the School Committee.

2. The Board of Apportionment shall at all times consist of the Superintendent, the six Assistant Superintendents and the Business Manager.

TRAINING SCHOOL FOR TEACHERS OF MECHANIC ARTS

(See page 132)

The primary purpose of this school is to provide an adequate supply of trained teachers of industrial subjects in intermediate schools.

It is recommended that a committee be appointed to study the problem to determine:

1. The need of the school.

If the need is established, to determine:

2. a. Requirements for admission.

b. Number of students.

c. Type and content of courses.

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